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June 2018

# BirdWatching

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**BIRDING THE  
Appalachian Trail**

**BIRDS OF THE  
Arctic National  
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**6**

RECENT RARE  
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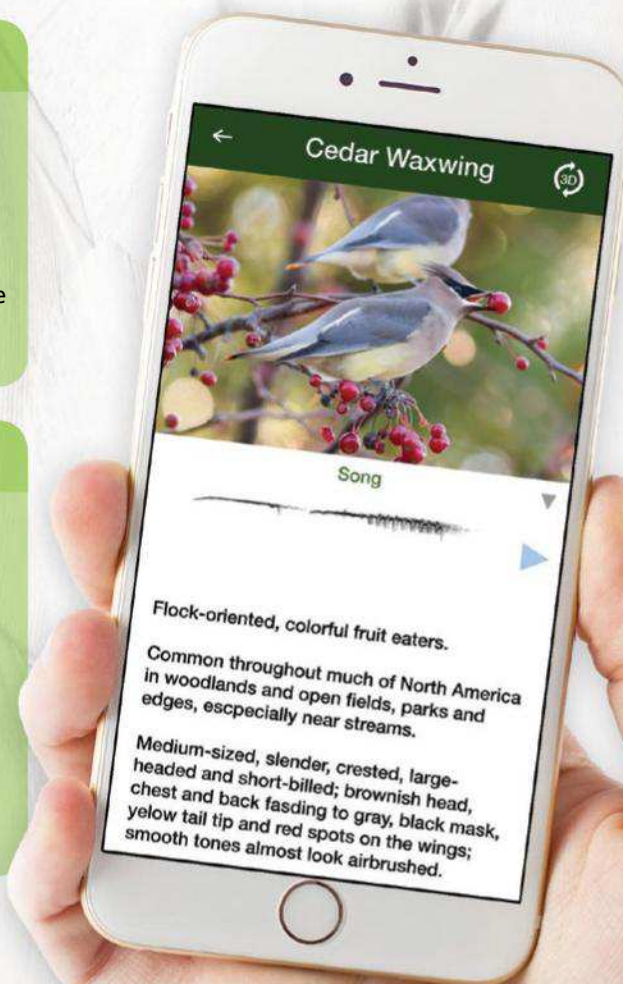
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## Scenes from the Arctic

When Malkolm Boothroyd, a talented young birder and photographer — and a committed advocate for birds and other wildlife — asked me in late 2017 if I would publish a photo essay featuring birds of the Arctic National Wildlife Refuge, I hesitated.

For starters, we'd published a great article in 2010 about the refuge by biologist David Shaw, which is available on our website. But efforts to drill for oil in the refuge were in the headlines again, thanks to the GOP tax bill that included a provision for opening up the refuge's coastal plain to the oil industry. I debated whether to accept Malkolm's proposal for two other reasons: First, we know that people of all political beliefs read this magazine, and no matter whether they align with the red team or the blue team, they'd prefer not to read about politics in these pages. I get that; I'd prefer to stick to birds, too.

The second reason I paused is that you, our reader, might ask, "Why choose to cover the Arctic refuge when so many other threats exist?" It would be a fair question, but we have, in recent issues, written about the undermining of the Migratory Bird Treaty Act and the potential for a border wall to dissect the Santa Ana refuge in Texas.

After briefly mulling over reasons not to publish Malkolm's photo essay, I realized that I'd be a fool to let it go. His photos are extraordinary, and they tell a compelling story. So, please turn to page 32 to view scenes from the Arctic refuge. I hope you'll agree that Malkolm's photos shine a light on this amazing place.

I'll sign off with the words of the late conservationist Margaret Murie, who advocated for the establishment and later the expansion of the Arctic refuge: "I hope that the United States of America is not so rich that she can afford to let these wildernesses pass by. Or so poor that she cannot afford to keep them."



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# BirdWatching

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# TAKING FLIGHT

## Birding in the Catskills

with Scott Whittle & Tom Stephenson  
— authors of **THE WARBLER GUIDE**

**PEREGRINE FALCONS**  
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# birdingbriefs

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**INSECT EATER:** Eastern Whip-poor-will, a nocturnal woodland bird that breeds from the Great Plains to the Atlantic Coast, is in severe decline.

## Fewer insects, fewer whip-poor-wills

Decades-long declines in the familiar nightjar tied to abundance of bugs

Aerial insectivores — birds that capture their prey while in flight themselves — are experiencing the steepest population decline in North America. One of the most widespread members of the group, Eastern Whip-poor-will, is no exception.

Population data from the Breeding Bird Survey indicate a range-wide decline of 2.76 percent per year in recent decades, and populations breeding in the northern portion of the range are falling even faster: about 3.5 percent per year.

Biologist Philina A. English of Simon Fraser University set out to determine what's causing the ongoing reduction in numbers. In a paper published in February by *Frontiers in Ecology and Evolution*, she and two colleagues compared the chemical signatures in museum specimens with those of living whip-poor-wills to determine what the birds used to eat.

From 2011 to 2013, they took feather and tissue samples from birds at three

Ontario breeding sites, and they obtained samples from 63 specimens that had been collected as far back as 1880. They determined that “aerial insectivore populations are declining due to changes in abundance of higher trophic-level prey.”

In other words, there are fewer large bugs now than in the late 19th and early 20th centuries, leaving less prey for whip-poor-wills.

English also tracked 22 whip-poor-wills with geolocators. In her doctoral dissertation, published in

2017, she reports the birds wintered from the Gulf coast of Mexico to Costa Rica. “On southward migration, most individuals interrupted migration for periods of up to 15 days north of the Gulf, regardless of their subsequent route,” she writes. “Fewer individuals showed signs of a stopover in spring.”

The use of stopover sites in the southeastern U.S. and the determination of wintering sites farther south suggest the need to improve conservation efforts for the species in those regions, English says.



YOUR QUESTIONS  
ANSWERED BY  
BIRD BANDER  
JULIE CRAVES

A grackle was exploring our compost pile when it pulled out a small piece of orange peel. Instead of eating it, the bird rubbed it briefly on its wing feathers. What was it doing? — Pat Charles, Atlanta, Georgia

More than 200 bird species, the majority of them songbirds, are known to engage in “anting.” Strictly speaking, this is when birds actively rub ants on themselves or allow ants to climb onto their feathers. The ant species chosen all excrete formic acid. There are dozens of reports of birds using substitutes for ants. These include millipedes, flowers, beetles, cigarette butts, grasshoppers, walnut-shell juice, mothballs, wasps, and — as you observed — citrus peels.

All of the objects also have strong odors or chemical properties. This has led to the intuitively appealing theory that birds are anointing themselves to rid their bodies of ectoparasites such as mites, fleas, lice, or ticks, or feather bacteria. However, experimental proof that ants or any stand-ins are actually effective at reducing ectoparasites or killing bacteria is limited or absent. Anting behaviors are so similar and so widespread geographically and taxonomically that they must have a common root cause. Perhaps the few studies

(continued on page 10)

Julie Craves is supervisor of avian research at the Rouge River Bird Observatory at the University of Michigan Dearborn and a research associate at the university's Environmental Interpretive Center.

## EYE ON CONSERVATION



Jack Jeffrey, www.jackjeffreypphoto.com

**HAWAIIAN ENDEMIC:** The endangered Newell's Shearwater, once feared extinct, breeds only in Hawai'i.

## Helping seabirds by keeping predators away

What counts as an invasive species might surprise you. Mosquitoes and house mice and other mammals — including those super-predators, free-roaming cats — have invaded ecosystems they don't naturally inhabit, putting pressure on native birds and other wildlife. These non-natives affect a particularly vulnerable group of birds: seabirds.

Seabirds evolved to raise relatively few young, because they usually nest in areas with few predators and could expect that most of their young would survive. For millions of years, this strategy worked.

Today, even the islands and remote headlands where seabirds breed bear the evidence of human activity. Many are overrun by non-native predators, leading to a startling statistic: Nearly 80 percent of the highest-risk seabirds in the Americas have plummeted in population and are now of serious conservation concern, according to IUCN data analyzed by ABC staff. These species include Newell's Shearwater, Hawaiian Petrel, and Townsend's Shearwater.

But there is good news. The very trait that

makes seabirds vulnerable — their tendency to nest in isolated, closely packed colonies — also provides the greatest opportunity to save them. Conservation fencing is proving to be an especially effective tool. Also called predator-proof fences, the devices include fine mesh barriers that thwart feral cats, rats, mongooses, and mice. Overhangs prevent climbing, while underground skirts prevent digging. More basic fencing excludes larger grazing animals such as sheep, goats, and pigs.

At Kilauea Point National Wildlife Refuge on Kauai, ABC and its partners installed fencing almost half-a-mile long to keep out introduced cats, rats, and dogs. That work helped create a safe zone in which Laysan Albatross and other native species can flourish.

Once invasive species have been removed, conservationists can re-introduce native species into these habitats. For example, in 2015 and 2016, scientists undertook historic translocations of Hawaiian Petrel and Newell's Shearwater chicks from their original colonies to the newly protected area at Kilauea Point.



American Bird Conservancy is a 501(c)(3), not-for-profit organization whose mission is to conserve native birds and their habitats throughout the Americas. You can learn more about its work to help seabirds at <https://abcbirds.org/program/seabirds>.



# Climate change and national parks

Study projects bird species to increase in many parks due to the changing climate

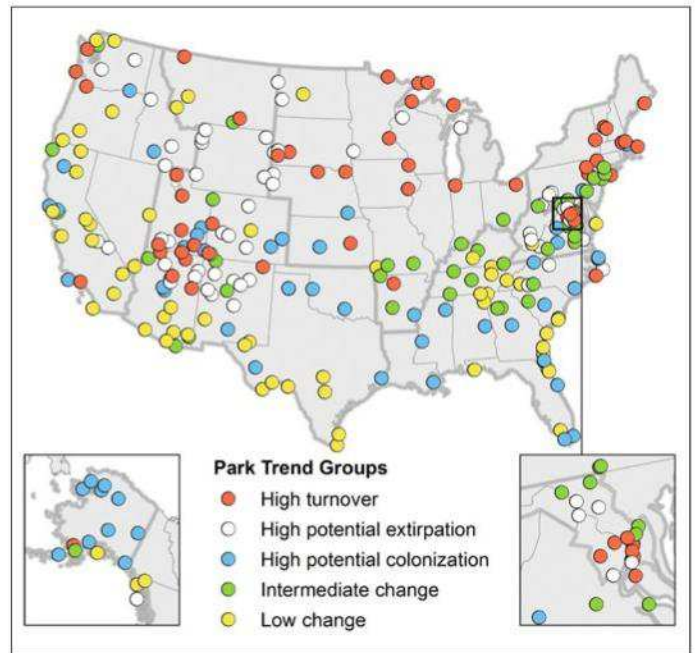
American national parks offer strong protection for birds from many invasive and ecological threats, but little is known about the impact of climate change on bird populations living in the parks. A study published recently in the open-access journal *PLoS ONE*, however, finds that parks could become even more important for bird conservation in coming decades in the face of climate change.

Researchers led by Joanna Wu of the National Audubon Society's Science Division paired species distribution models from the North American Breeding Bird Survey (summer) and Audubon Christmas Bird Count (winter) observations to climate data from the early 2000s and projected to 2041-2070. The researchers analyzed climate suitability projections over time for 513 species across 274 national parks under a high- and low-greenhouse-gas-emission scenario. They then classified climate suitability for birds as improving, worsening, stable,

potential colonization, and potential extirpation.

The researchers found that potential colonization by birds in national parks exceeds potential extirpation in more than 60 percent of parks, and if projected extirpations and colonizations were realized, the average park would have 29 percent more species in winter and 6 percent more species in summer. The authors suggest that their findings reinforce the importance of the parks to the conservation of birds in the face of climate change and the value of monitoring species distribution to better inform conservation and management strategies.

Wu's paper includes this example: At Golden Gate National Recreation Area in California, the climate is expected to improve for Great Egret, remain stable for Nuttall's Woodpecker, and worsen for Wilson's Warbler. By the 2050s, the climate may worsen so much for American Robin that the species could be extirpated from the park.



**PREDICTIONS VARY:** Researchers classified projected bird-population trends at 274 national parks in 49 states. Each circle represents one park.

And although Blue Grosbeak is not currently found in the park, the climate is projected to become suitable for the species, potentially resulting in local colonization.

“Over the next few decades, the majority of birds currently found across the National Park System are expected to

experience changes in climate conditions, which on average may lead to turnover of nearly a quarter of the bird community per park,” says Gregor Schuurman, a co-author of the study. “Despite these changes, parks will become increasingly important as refuges for birds in the future.”

## eBird's remarkable accuracy

Data submitted to the site closely tracks official bird-population trends

If you regularly post your bird sightings to eBird.org but wonder whether your data is valuable, then Joshua Horns, a doctoral candidate in biology at the University of Utah, has good news for you. In a study about the reliability of eBird data, Horns and his colleagues compared population trends for 574 North American species as shown in eBird data with official trends from the Breeding Bird Survey, conducted annually by the U.S. Geological Survey throughout the United States and Canada.

The researchers, writing in the journal *Biological Conservation*, examined more than 11 million eBird checklists submitted between

1997 and 2016 and found that observations submitted to the site match trends in bird species populations measured by the government survey to within 0.4 percent.

The finding suggests that birders throughout the world who report their sightings to the website are providing extremely valuable data. Users of eBird are present all around the globe, of course, but official government data about species trends is absent from many places, including South America, the Caribbean, and tropical Africa. Data for individual species in eBird can serve as a stand-in of sorts in the absence of more rigorous surveys.

The question, then, is how many eBird lists are necessary for any one region to closely approximate actual populations?

Horns concluded that to accurately track a species' population, the minimum was about 10,000 lists. So when a country or region has at least that many lists, the results suggest, you can be confident that population trends observed in the lists are a reflection of reality.

But what about areas that don't have that many lists? Horns says that lists from bird atlases and trip reports from ecotourism groups can also be used, with list length as a proxy for birder skill.

(continued from page 8)

attempting to confirm the theory failed because there are so many different ectoparasites and their diversity and abundance can vary with host bird, environment, and season. Or there may be a totally different reason birds do this that we have yet to fully understand.

Every year, we note young goldfinches eating seeds from the coneflowers in the yard. However, recently they've also investigated the tiny cones of eastern hemlock and seemed to pry out the seeds. Is this likely to be an accurate observation? — *Sidney Barritt, Roanoke, Virginia*

Yes, American Goldfinches are known to eat seeds from hemlock cones. Their favorite natural foods are typically the seeds of herbaceous plants, including coneflowers, sunflowers, teasel, and bergamot and various grass seeds. In winter, they're more likely to utilize tree crops like birches, spruces, or hemlocks. I often see them working to extract seeds from alder cones. Occasionally, they also eat berries and even flower buds. In the spring, my banding crew and I would often note that goldfinches in the hand smelled like maple syrup. We weren't crazy — the birds are known to consume maple sap and maple buds!

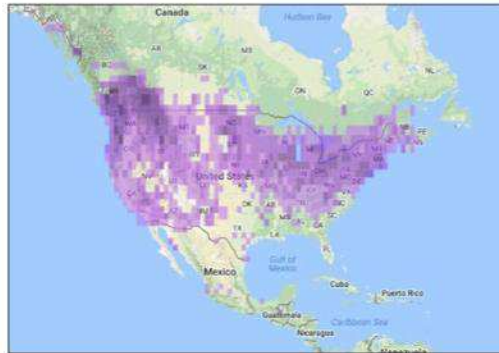
I observed a Mute Swan in a local pond that appeared to have a broken or deformed leg, as it was twisted above its rump. But later what I assume was the

(continued on page 12)

## ON THE MOVE FROM eBIRD

### Two songbirds to watch and listen for in spring

#### Willow Flycatcher



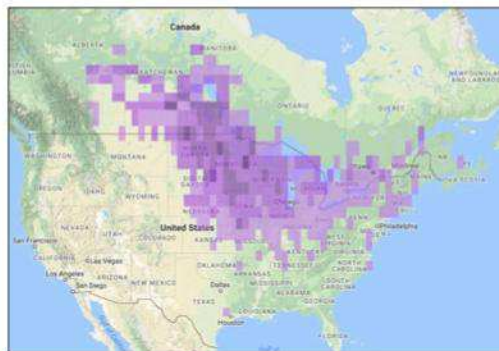
June 2007-17



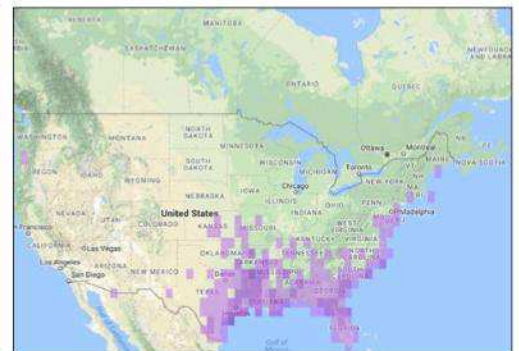
January 2007-17

The maps above show where eBird users reported the olive-brown Willow Flycatcher over the last decade in June and January. The bird, one of the visually perplexing *Empidonax* flycatchers, is frequently identified by its song, a burry *fitz-bew*. During the breeding season, it is a relatively common inhabitant of moist, shrubby habitats and riparian areas across much of the continental United States and southern Canada. (A subspecies endemic to the desert southwest, Southwestern Willow Flycatcher, is patchily distributed, declining, and federally endangered.) By January, the species has entirely vacated its breeding range, occurring in central and southern Mexico, Central America, and northern South America. Listen for the flycatcher's distinctive song and watch for its unique foraging behavior: repeated short flights in search of insect prey.

#### Sedge Wren



June 2007-17



January 2007-17

Sedge Wren, the only North American wren with a combination of barring on the head, wings, and tail, is known for being widely nomadic, secretive, and difficult to study. During the breeding season, it is perhaps best located by its song, a dry staccato chattering that rises from the sedge meadows, bogs, and prairies that it inhabits. In June, Sedge Wren occurs across the Midwest and portions of the Great Plains, but breeding occurs in different parts of the breeding range at different times. The birds first nest primarily in the Midwest and southern Canada, and in late summer, they make a second attempt either south or northeast of their first spots. By January, most Sedge Wrens that breed in the United States and Canada have flown to the southeastern states and northeastern Mexico. Male Sedge Wrens are prolific singers and are unique for improvising species-typical songs rather than by imitating the songs of other Sedge Wrens.

eBird is the real-time online checklist operated by the Cornell Lab of Ornithology and Audubon. "On the Move" is written by eBird's Garrett MacDonald, Chris Wood, Marshall Iliff, and Brian Sullivan. Submit your sightings at [eBird.org](http://eBird.org).



# Paying attention to singing female birds

Scientists say it's time to learn more about female birdsong

When North American ornithologists hear a bird singing, they're likely to assume it's a male. But in many species, the females sing, too — and a new commentary in *The Auk: Ornithological Advances* argues that a better understanding of unappreciated female songs could lead to advances in many aspects of bird biology.

Authors Karan Odom of Cornell University and Lauryn Benedict of the University of Northern Colorado both discovered the world of female birdsong through their own research. “I started studying California Towhees 17 years ago, and I was fascinated by the duet vocalization given by

females and males,” says Benedict. “That led me to start looking for female song in other North American bird species, and I was surprised to learn that it was much more common than I expected. The reports of female song are buried in odd corners of the literature, but when you put them all together, you start to see some interesting patterns.”

Though singing females were likely the norm among the ancestors of today's songbirds, female song today is understudied and is underrepresented in collections of bird-sound recordings. This, say Odom and Benedict, may be the result of bias toward the birds of

temperate regions. And while female song is more widespread in temperate species than many ornithologists appreciate, it's most common among tropical birds.

The authors argue that better documentation of female song and more detailed descriptions of female song structure and output could improve our understanding of birds' comparative physiology, neurobiology, behavioral ecology, evolution, and even conservation. Birds of conservation concern are often located and identified by song during surveys, and assumptions that all singing birds are male could mislead wildlife managers about the state of populations.

Odom and Benedict urge their fellow ornithologists to spread the word that female birds sing, to share resources, and to disseminate their findings. You don't need to be a professional ornithologist in order to help expand our knowledge of female song, either. Odom has created the website <http://femalebirdsong.org>, where any birdwatcher can upload observations. “If you hear a bird singing, do not assume it's a male,” she says. “If you observe a female bird singing, document it by uploading field notes, audio, or video to the collections on our website. Make sure to indicate how you recognized the bird was female.”



## Secret life of birds

**A NICE PLACE TO RAISE A FAMILY:** A female American Redstart sits in her partially completed nest in Point Pelee National Park, in southern Ontario, in mid-May 2017. The females of the species build their nests alone, creating an open cup of grasses, thin bark strips, and plant down. The birds use spider silk to “glue” the nests together.

Paul Reaves Photography/Shutterstock



(continued from page 10)

same swan seemed to be swimming around normally. Do you have any insight? — Nell Moore, Boston, Massachusetts

Mute Swans (as well as other species) are known to swim fairly often with one leg raised out of the water and resting on the lower back. It is theorized that this might help the bird adjust its temperature. The feet are a large area of well-vascularized skin not covered by feathers. Exposing a foot to the air could help dissipate heat in warm weather. Conversely, because the skin is black, it may help absorb heat from the sun in cooler weather. Although the position looks really awkward to us, it may simply be relaxing to a swan.

What bird has the strangest or most specialized diet? — Alex Nelson, Denver, Colorado

I'll give that distinction to the Bearded Vulture, or Lammergeier (*Gypaetus barbatus*). This huge Old World vulture, which can weigh over 13 pounds, eats bones nearly exclusively. It consumes not just the marrow but entire bones. Small ones are eaten whole, while larger ones are carried away from a carcass and dropped from a great height so they break open. The vultures have very acidic gastric juices and long intestinal tracts that help them digest their unique diet.

### Send a question

Send your question to ask@birdwatchingdaily.com or visit [www.BirdWatchingDaily.com](http://www.BirdWatchingDaily.com) and look for "Contact us."

## PHOTO GALLERY

### Recent rare-bird sightings in North America



Patrick Maurice

**FIRST IN GEORGIA:** This male Mountain Bluebird turned up in mid-March at the regional airport in Augusta, near the South Carolina border.



Allan Murrant

**FIRST IN NOVA SCOTIA:** In late January, birders saw this Kelp Gull, a Southern Hemisphere bird, on a beach south of Halifax.



Lou and Mary Truex

**FIRST IN OKLAHOMA:** This Lawrence's Goldfinch was seen March 9 in a Lawton backyard — the easternmost record ever of the western species.



Ken Pinnow

**FIRST IN PENNSYLVANIA:** In February, this Gray-crowned Rosy-Finch visited a feeder in Meadville, in the northwestern part of the state.



Joshua Uffman

**FIFTH IN MISSOURI:** Far from its range along the West Coast, this Golden-crowned Sparrow was seen in March at Bunch Hollow Conservation Area.



Adam Betuel

**NINTH IN GEORGIA:** This immature Lark Bunting spent at least 10 days in March at Centennial Olympic Park in downtown Atlanta.



## World Migratory Bird Day

This year, on the 25th anniversary of International Migratory Bird Day, the organizers at Environment for the Americas and their collaborators decided to rename the campaign World Migratory Bird Day. Many celebrations in the U.S. and Canada will be held on May 12; from the Caribbean to South America, events are slated for October 13. The theme, as shown on the poster below, is “Year of the Bird.”



## Why larks are darker

Researchers find Horned Larks today are darker than their forebears



If you could take a time machine back 80 years or so and found yourself in southern California's Imperial Valley, you'd certainly see Horned Larks, just as birders do today. If you knew what to look for, you might wonder why yesterday's larks looked slightly different than their descendants do now.

Nicholas Mason, a post-doctoral researcher at the Museum of Vertebrate Zoology at the University of California-Berkeley, doesn't have a time machine, but he does have access to museum specimens. After anecdotal reports suggested that today's Horned Larks are darker than their forebears, Mason decided to investigate.

He and Philip Unitt, the curator of birds and mammals at the San Diego Natural History Museum, compared the relative pigmentation of the feathers of two groups of lark specimens: birds that were collected in the Imperial Valley from 1918 to 1934 and those collected from 1984 to 2014. Using a spectrophotometer, a device that measures the amount of reflected light of a given wavelength, Mason and Unitt found that more recent larks have darker backs, napes, and crowns.

"This dorsal darkening may have resulted from a shift in selective pressures for camouflage induced by land use," the researchers wrote. "Previously, the lark population nested on light-colored desert flats, whereas contemporary larks occupy darker soil associated with agricultural fields."

The finders were published in the *Journal of Avian Biology*.

## Festivals + events

Three fun birding events slated for June

### Cerulean Warbler Weekend

Michigan Audubon hosts this event in Barry County, in western Michigan, a stronghold for Cerulean Warbler, the fastest-declining songbird species in North America. The event includes workshops and birding trips to Cerulean hotspots. Participants can also expect to see Henslow's and Grasshopper Sparrows, Alder, Acadian, and Willow Flycatchers, and Yellow-throated and Blue-headed Vireos. **June 2-3**

### Wings Across the Big Sky Bird Festival

Birding trips to Glacier National Park are among the highlights of this event, which will be held in Kalispell, Montana. Tours will also visit the National Bison Range (Hotspot Near You No. 256) and the Flathead Lake Biological Station. Stuart Strahl, president and CEO of the Chicago Zoological Society, will give the keynote. **June 8-10**

### Mono Basin Bird Chautauqua

This event, held in the town of Lee Vining, near the shore of Mono Lake in eastern California, offers more than 90 field trips, workshops, and presentations with renowned bird guides, naturalists, and artists. Presenters and trip leaders include photographer Bob Steele, author Stephen Shunk, and artist Jack Muir Laws. **June 15-17**

For festival contact info, or to list your event in our calendar, visit our website: [www.BirdWatchingDaily.com/events](http://www.BirdWatchingDaily.com/events)



**SIZE MATTERS:** At 30 inches long, Great Black-backed Gull is the largest gull in North America.

# Overcoming gull phobia

*Why it's time to stop ignoring and start identifying gulls*

Who's afraid of the big bad gull?

Everyone, it appears. Ask any birder to name the bird group that daunts them most, and to a man, woman, and tour leader, they will shout "gulls."

What is it about this bird group that afflicts observers with identification paralysis? In fact, so dismissive are birders about gulls that many observers, when confronted by a feathered brown miscreant on the beach, don't even look at it.

What a misfortune. To categorically ignore gulls deprives birders of insight into one of the planet's most entertaining, socially complex, successful, and

intelligent bird families.

Of course, you have to like gray.

And brown and black and white: all colors donned by gulls as they go through successive molts en route to adulthood. And yes, the plumages change and many species share similar plumage traits.

But look at the bright side.

Gulls come with built-in advantages, too.

First, most are easily identified as gulls, falling immediately into a definable category, limited in North America to a manageable 26 possibilities. That's two fewer options than

raptors and 22 less than sparrows. What's more, several of our 26 gull species are unlikely to be encountered outside their prescribed range — among them Yellow-footed Gull and Red-legged Kittiwake.

Gulls are also large enough to easily note field marks such as eye color, leg color, bill shape, and plumage pattern. In addition, gulls typically stand or sit in the open, where they are easily studied and where they become habituated to people, allowing prolonged scrutiny and close approach. In other words, unlike sparrows, gulls play fair.

Gregarious birds, it is common for multiple species to be grouped together, facilitating comparison between familiar species and less-familiar ones.

And while gulls range widely in size from the 11-inch Little Gull to the 30-inch Great Black-backed Gull, when we can compare them directly, the relative size of gulls is a boon to identification.

In fact, if you know where you are and can establish the ranges of the gulls you are studying, you will find that many North American gull species are separable by size and overt traits alone. I'll bet nobody ever told you that.

What this means is that if you are standing on a beach in New Jersey and you see a black-backed gull that is much larger than the silvery gray-backed Herring Gull standing nearby, it's a Great Black-backed Gull. If it is smaller than the Herring Gull, it's a Lesser Black-backed Gull.

And, yes, large white-headed gulls do hybridize, producing young with traits of both parent species. The classic example is Glaucous-winged and Western Gulls. But don't get all wrapped around the axle about this. Accept the fact that not every gull you encounter in the field is going to be identified. When you see a gull that defies identification, turn and walk away; run if you like, or take a picture or three and submit them to experts. In my opinion, a "mostly Western Gull" is as good an end point as a starting point.

Even if you don't pin a name to a gull, this doesn't mean that you cannot be fascinated by it or appreciate it as an



element of the natural matrix.

Ever wonder why Ring-billed Gulls hang around parking lots and Herring Gulls typically do not? Watch them. Ring-billed Gulls are nimble afoot, thus able to exploit a land-based food source. Herring Gulls are more aquatic, preferring to swim to acquire food.

On the other hand, Herring Gulls are intelligent enough to drop mollusks onto hard surfaces to decant the gastronomic delights within. I've never seen a Ring-billed Gull use this technique. Removing sesame-seed buns from their outer wrapping appears to be their intellectual limit.

If you watch the birds long enough, you'll note that Herring Gulls and Ring-billeds walk differently. Ring-billeds move with quick, mincing steps. Herring Gulls stride with a rolling, hind-end swinging sailor's gait and much prefer to swim, anyway.

In truth, I misidentified the very first

gull I tried to identify. The dead immature (or first-winter) gull I found floating in the Brickyard Ponds in northern New Jersey one snowy April day was initially identified by me as a "Herring Gull," the only gull species pictured in my pocket-size 1949 Golden Nature Guide (the one with robins on the cover). Ring-billed and California Gull were mentioned in the text but not depicted. It just stood to reason that the bird honored with an illustration was the most likely candidate, so in my ledger I wrote "Herring Gull."

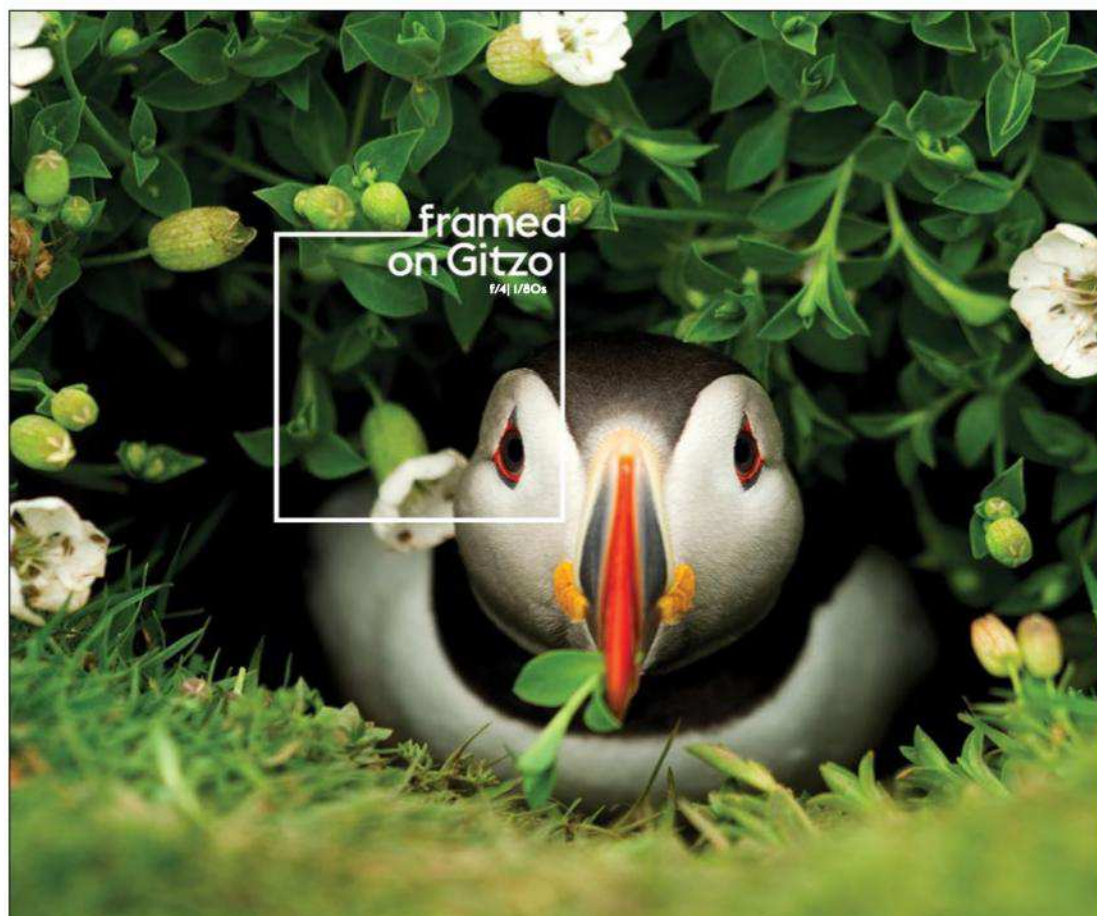
Luckily, the bird was banded, and, via the Bird Banding Laboratory, my banded bird, ringed the previous year, proved to be a Ring-billed, which is, I have come to understand, the expected late winter/early spring gull in interior portions of New Jersey. Breeding on the shores of the Great Lakes, Ring-billed Gulls regularly commute to the Jersey shore for the winter, unless they short stop at an attractive fast-food parking lot along the

way. My reliance upon probability was apt, it just wasn't informed.

Despite an early start, my now-acute appreciation of gulls was slow to awaken. It was only after completing a book on gull ID with photographer Kevin Karlson that I came to appreciate this amazing bird group. The book, *Gulls Simplified*, is now in the publisher's hand. What now? Well, for my part, I plan to head out to the nearby fishing village of Bivalve and study Herring Gulls in assorted plumages. Ring-billeds? They tend to avoid crowds, especially when the crowd is comprised of much larger Herring and Great Black-backed Gulls.

So, who's afraid of the big bad gull? Ring-billed Gull, for one. 🐦

Pete Dunne is New Jersey Audubon's birding ambassador at-large. He is the author of many books, including *Birds of Prey*, *Hawks in Flight*, and *The Wind Masters*.



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# Hummingbirds AT HOME

Tips and  
techniques  
for shooting  
memorable  
photos of the  
avian jewels in  
your backyard

Article and photos by  
**WILLIAM JOBES**

The mid-summer sunrise splashed golden light waves across the patio, enveloping my already keenly attuned senses, in anticipation of the arrival of the morning's first hummingbird. My modest home-crafted elevated brick garden was lush with tropical florals; the camera was tripod-mounted and aimed at a bright red shrimp plant blossom as I settled into a well-worn canvas camp chair. A fresh cup of coffee rested at the ready on a small side table.

Within moments, I heard the faint hypersonic whirring of an approaching Ruby-throated Hummingbird as it hovered a few feet away, seeming to be studying me before approaching the flowers. A fun add-on benefit of frequent hummingbird home photography is the way the birds become accustomed to you — at times almost friendly as they fearlessly hover near you.

For the past several summers, this has been my morning routine, as I pursue

my passion for photographing the tiny, elusive avian acrobats. For the longest time, my bird photography interests centered on majestic raptors — hawks, eagles, and falcons. In pursuit of new challenges, I traveled throughout the Mid-Atlantic region in search of hummingbirds, with, candidly, mixed results. The travel distance and time commitment simply didn't justify hitting the road to hummingbird hotspots. So I decided to bring the birds home to me. Eventually, success followed.

My goal was to take publication-quality photographs of hummingbirds, without investing in a journey to Costa Rica and points beyond. Why, I reasoned, should I have to travel to their winter home in Central America, when each year these diminutive graduates of

---

**FEATHERED JEWEL: A Ruby-throated Hummingbird feeds at orange impatiens in the author's hummingbird garden in eastern Pennsylvania.**

**WHAT WORKS:** The flowers at right — shrimp plant, butterfly bush, and fuchsia — are three of the many hummingbird-friendly plants in the author's garden.

nature's transoceanic flight school migrate as far north as Canada to summer in splendor.

Since they'd be in my neighborhood in Bucks County, Pennsylvania, for a few months — and very likely in yours — I thought: Why not entice them to stay for a while? And what better time and place than my patio to photograph them going about their daily routine of feeding and flight?

What follows is a strategy for successfully taking hummingbird photographs for the first time, or, if you're already in the game, maybe raising your skills to a new level. The techniques I'll describe, properly executed, are guaranteed to bring the excitement and beauty of the fascinating flyers to your screen, and, if you wish, on prints to a wall near you. So let's get started.

The keys to success include selecting the right flowers to entice the birds, gathering the appropriate photo gear, honing your photography techniques, and establishing a personal routine near the flower bed: one that gives you access to the birds without intimidating them.

## THE FLOWERS

Myriad online sources list florals that hummingbirds find attractive. Your best bet is to research hummingbird-friendly plants for your state or region. In my garden, these three rule the kingdom:

- The commonly named shrimp plant (*Justicia brandegeeana*), a native of Mexico. Its flowers resemble a shrimp, thus the name. They come in a variety of colors. The hummingbirds love them all, not just the iconic red ones. Bright yellow flowers are also a hit.

- Any color of the wide variety of fuchsia flowers. The family has 100 or more species, native to Central and South America, and most North American garden centers have profuse stocks for summertime planting. I've had success with flowers of red, purple, and orange.

- Any color variety of bee balm (*Monarda didyma*) with its stunning flowers.



My garden also has swamp milkweed, butterfly bush, and a host of other brightly colored annuals that combine to create a miniature tropical paradise. Hummingbirds surely find it welcoming and comforting as they while away the summer so far from home.

## THE PHOTO GEAR

Most any DSLR camera, from consumer grade to top pro hardware, will work. You don't have to break the bank to get outstanding hummingbird pictures. As long as the camera body



has high-shutter-speed capability and a fairly robust autofocus, the stage for success is set. A medium telephoto lens in the 150mm to 300mm range is a must; the mammoth 500mm, 600mm, and 800mm lenses are optional. I've taken quality photos with modestly priced glass that can compete nicely with images I've captured with lenses far more expensive. My camera bodies include a Nikon D500, a Nikon D4, and a Sony a6000 mirrorless. I have also taken video with a GoPro on a stake within inches of the flowers.





## THE TECHNIQUE

Here's where it all comes together.

Photography schools, online courses, and individuals have shared technical know-how for what seems an eternity. The wealth of knowledge can be intimidating and difficult to navigate. And, truth be told, many photographers, especially professionals and their aspirants, have been known to be cagey about their own personal success formulas. Not me; not this time. If you follow these eight simple guidelines, your success as a hum-

mingbird photographer is assured.

**1. Use a tripod.** Hand-held technique may work if your shutter speed is high enough, but tripods remove most of the element of chance and are the literal foundation for sharp images.

**2. Shutter speed.** My minimum shutter speed to freeze a hummingbird's wings in flight is 1/4000th of a second. In bright light, I can go as high as 1/8000th. While they hover, the birds beat their wings about 80

**EATING ON THE WING:** An adult male Ruby-throat sips nectar from bee balm in the author's yard. He has found that the birds are attracted to flowers in various states of bloom.

times a second, so you need shutter speeds in the thousandths of a second to freeze the action. Conversely, there are times when, for artistic reasons, I want to blur the wings. Usually, a shutter speed below 1/1000th of a second will do the trick. Experiment to see what works best, based on your light conditions and shooting environment on any given day.







**3. Lens aperture.** This is a delicate balance, as you want to provide sufficient depth of field to encompass all the fine feather details while preserving a pleasing background bokeh, which is the quality of the background blur. I will usually set the aperture at F/4 to F/7.1 and vary the opening as I review in real time image results and adapt the setting based on the desired effect. The closer you physically get to the bird and flower, the creamier the background blur.

**4. White balance.** These camera settings can sometimes bewilder even experienced photographers, as their impacts can vary widely based on camera body type and brand. In avian photography, accurate color rendition is critical. During each session, I take test shots of bricks on the garden wall to see which of the Auto, Sunlight, Shade, or Cloudy camera settings render the most accurate color under current light conditions. I check it often throughout the session, especially on days when the sun peeks in and out of cloud cover.

**5. ISO.** Conventional wisdom says high ISO adds noise to an image and low ISO lends smoothness. That generality is true. With so many camera variations based on ISO impact, let's just say that if you select Auto ISO, the results will nearly always be satisfactory, as the camera algorithms do the heavy lifting for you. I typically set mine between ISO 400 and ISO 3600, depending on the changing light.

**6. The background.** Take careful note of the colors behind the hummingbird, for they'll set the mood of the image. The background is likely the most-overlooked component of photo composition and framing. For instance, green tree leaves in the background, when shot with a telephoto lens, will blur into a pleasing tropical aura. A shady area behind the bird will present dark in photos, and, if your shutter speed is high

enough, will give a stunning black background. Shooting into the golden light of a sunrise or sunset seems to place the bird in a heavenly paradise. When shooting into bright light, don't

feeding as well in the middle of the day, but the overhead summer sunlight is harsh, and it often presents the birds in the shadows of a floral canopy, with less-than-pleasing results.

Once I established myself each day fairly close to the flowers, say 10 to 12 feet away, the birds didn't seem fazed in the least. They came to accept me as part of the landscape, and they'd occasionally fly over and hover to visit just a couple of feet from my face.

forget to dial in three to five stops of positive exposure compensation to present the bird in full color, as opposed to a silhouette.

**7. Position.** Here's where it gets interesting. When first starting out several years ago, I was photographing mainly with a 600mm Nikon lens. My assumption, which turned out to be dubious, was that I had to be far back to avoid spooking the birds. I later started experimenting with a 300mm lens, a camera position much closer to the flowers and birds, and the results were magical. Once I established myself each day fairly close to the flowers, say 10 to 12 feet away, the birds didn't seem fazed in the least. They came to accept me as part of the landscape, and they'd occasionally fly over and hover to visit just a couple of feet from my face. The gentle whir of their wings amplified the enchantment of their closeness. A pleasant surprise was when I started using a Sigma 150mm telephoto macro lens. With a shrimp plant in a container on the edge of a 3-foot-high garden wall, I would squat down directly below the plant and aim upward within a few feet of the feeding birds. They were so singularly focused on nectar consumption that they seemed not to even notice me an arm's length below them.

**8. Time of day.** In my experience, the most productive times for feeding activity are between sunrise and about 10 a.m., and in the afternoon, from about 3 p.m. until sunset. I've seen

### EXECUTING THE PLAN

With all these keys in place, it's finally game time. Here's what to expect. The hummingbirds, especially in my suburban area, definitely make the rounds to various feeding spots throughout the day. Expect them to appear at least once an hour on a fairly regular timetable.

You may catch one out of the corner of an eye, hovering a few feet above the flowers, looking around and deciding which blossom to engage. Once the bird starts feeding, it will dash to a flower, remain for a few seconds, disengage, and zip to another flower. It's a helter-skelter garden romp that changes constantly. Time spent on a flower is seldom more than a few seconds, so the time to photograph the feeder is fleeting.

My photo technique with an active feeder is to focus, shoot in short bursts, refocus, and fire a shutter burst on the bird as it visits each blossom. I recommend using the maximum frame rate possible with your camera body. In my case, it's 10 or 11 frames per second. Not all images will be in focus, but with proper photography technique, many will be keepers.

The three must-do's in the following summary are required to complete the mission and achieve your goal of hummingbird-photography excellence.

• **Patience. Patience. Patience.** Yes, I said it three times for emphasis, yet while it's only the first of the trio, you'll fall short without it. Here's why. You may spend an hour sitting and staring at the garden, but if you blink, you may not

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**BLAST OFF:** The author was ready with his camera when this hummingbird left a flower and burst vertically, looking like an F-16 fighter. The birds are said to be able to reach 30 mph in straight flight and 63 mph in courtship dives.





## The birds will arrive without warning, and if you aren't poised with your gear at the ready, I speak from experience on this: **You will miss the shot.**

see the arrival, feeding, and departure of one of these avian rockets.

• **Persistence.** Keep your eye on the ball. Or, in this case, the blossoms. To me, persistence is the proper execution of patience. This is more than casual observation of hummingbirds in their environment; it's a serious endeavor to photograph them at the apogee of their lives — as they fly and ferociously feed on the rich, sustaining nectar. They will

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**WHERE THE MAGIC HAPPENS:** The author's garden (above), which includes swamp milkweed, lavender, echinacea, hyssop, and many other plants, also attracts goldfinches, butterflies, and dragonflies. The bird at right zips past yellow shrimp plant blossoms.

arrive without warning, and if you aren't poised with your gear at the ready, I speak from experience on this: You will miss the shot.

• **Preparation.** It all comes back to preparation. Gear, light, position, setting, and, above all, a mindset committed to your goal of capturing a jaw-dropping photograph. That said, in spite of all my best intentions, I will sometimes just sit back, relax, and watch. There's short-term satisfaction and a lot of joy in this, but you'll only get the long-term satisfaction when you capture that once-a-summer image of nature's speedy flyers and can look back on it deep in the night of a cold, dark winter.

I've been fortunate to have had the experience. The hints I've offered here were refined over many summers of trial and error and, indeed, at times frustration at my results. I've opened my book and provided the tools to save you all that time and angst.

Now, it's your turn. 🐦

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*William Jobs is a print and broadcast journalist. In our October 2011 issue, he wrote about mobbing (small birds ganging up on larger birds), and he has described birding locations in Maryland, New Jersey, and Pennsylvania in our "Hotspots Near You" section. You can read his past articles on our website, and you can see more of his photography at <https://william-jobs.pixels.com>.*













# *A million steps and 10,000 birds*

A hike along the Appalachian Trail is not just a walk in the woods. For a birder, it's a chance to tally every bird she hears and sees — and report them to eBird.

BY DIANA DOYLE

**“IT WILL ONLY BE** a short section, like 500 miles,” my 60-year-old husband said of his proposed hike of the Appalachian Trail. Sure, a walk in the woods, to paraphrase Bill Bryson’s popular book and movie. I opted to go along.

But once a birder, always a birder, so I resolved to not simply hike the trail but to bird it. Every single mile in a very, very long transect of eBird checklists. My goal was to record every bird seen or heard over the several hundred miles of this unique habitat — a high-elevation ridge that extends the breeding ranges of northern birds into the Deep South.

As far as I know, the entire Appalachian Trail has never been continuously eBirded. The A.T., as it’s dubbed, is a 2,190-mile hiking trail, a designated National Scenic Trail along the Appalachian Mountains from Mount Katahdin, Maine, to Springer Mountain, Georgia. From Bicknell’s Thrush to Cerulean Warbler, this high-elevation footpath is

the breeding ground for many birds threatened by habitat loss due to development and climate change.

We opted to hike Virginia, giving us more than 500 miles between the West Virginia and Tennessee borders, spanning highlights such as Shenandoah National Park, Grayson Highlands and its wild ponies, and Mount Rogers, Virginia’s spruce- and fir-clad high point at 5,728 feet.

Red spruce and Fraser fir in southern Virginia? Yes, and that is precisely the ecological interest of the Appalachian Mountains. Take a look at a range map of Canada Warbler. Its breeding range extends in a long thin line down the Appalachian chain, as far south as Georgia. In terms of climate and habitat, elevation substitutes for latitude. About 30 “northern” species stretch their breeding range southward along the Appalachian’s high-elevation backbone, including Least Flycatcher, Blue-headed

**BIRD’S-EYE VIEW:**  
The Appalachian Trail passes just below this spot, the summit of Hawksbill Mountain in Shenandoah National Park.





Vireo, Brown Creeper, Winter Wren, Golden-crowned Kinglet, Veery, Hermit Thrush, Golden-winged, Chestnut-sided, Magnolia, Black-throated Blue, Blackburnian, Yellow-rumped, Black-throated Green, and Canada Warblers, Rose-breasted Grosbeak, Vesper Sparrow, and Dark-eyed Junco.

In Virginia alone, the Appalachian chain includes breeding grounds for 11 Watch List species, a list of rapidly declining birds according to the North American Bird Conservation Initiative. By long-distance hiking, I would immerse myself in under-birded areas and document Watch List species such as Cerulean Warbler (73 percent decline between 1970 and 2014), Eastern Whip-poor-will (67 percent decline), Canada Warbler (63 percent), Golden-winged Warbler (60 percent), and Wood Thrush (59 percent).

“This might just work,” I thought. I would experience an American icon, a

National Scenic Trail, through its birdlife. To paraphrase a quote from botanist Alice Eastwood, who shunned cars on her collecting trips in the 1930s, “There is no way so good for a knowledge of [birds] as walking through a region.”

### PREPPING FOR A LONG BIRD HIKE

My timing was fortuitous. Virginia was in the midst of its second Breeding Bird Atlas (VABBA2), a five-year volunteer survey of breeding birds conducted every 25 years. Our hike would have me traversing stretches of seldom-surveyed mountain trails. My eBird checklists could do double-duty if I added a breeding code to every species: Blackburnian Warbler — carrying food; Black-and-white Warbler — nest with young; Louisiana Waterthrush — singing male; and so on.

The state coordinator of the VABBA2, Ashley Peele, created a custom map layer showing each survey block

that intersected the Appalachian Trail. With this .kmz layer loaded into my Gaia GPS app, my offline smartphone displayed my precise position on the trail as I crossed, for example, Thornton Gap SW block into Old Rag Mountain NW block. Bird sightings were logged on the free eBird mobile app, creating offline checklists to be uploaded when I had a cell signal, such as during a scenic rest break at a mountaintop.

Reluctantly, I left my Nikon Coolpix P600 camera in the stay-at-home pile. Not to get too personal, but I’m not packing 20 ounces of camera when I’m only allowed one spare pair of underwear. Instead, I’d have to rely on audio documentation using my 6-ounce iPhone, a necessity for its GPS, topo maps, emergency phone, email, eBird app, field guides, and ebooks.

Binoculars, however, were a must. I opted for the ultra-lightweight Leica Ultravid 8x20 BR AquaDura, weighing a



STARS OF THE SHOW: Two species the author encountered on the trail were Scarlet Tanager and the declining Cerulean Warbler (left).



paltry 8 ounces. The optics were outstanding, and they endured the Appalachian humidity and rain without issue.

Experienced hikers insist you must reflect on why you want to long-distance hike the trail. Do you want to redefine your life's course? Come to terms with a loss? For me, I wanted to see a Cerulean

warbler. I was intensely birding, immersed in birding, recording every single avian tick, starting a new checklist whenever my iPhone's Gaia app showed me entering a new survey block.

But I couldn't see a single bird.

The Appalachian Trail is affectionately called the "Green Tunnel." The southern

aply as a "Green Curtain" — you may not be able to see, but you can hear incredibly well. As Hempton points out, if you can hear sounds from 1.5 miles away, your audible area is equal to that distance squared times pi — more than seven square miles of bird song!

When the day wore on and the songs

*I resolved to not simply hike the trail but to bird it.  
Every single mile in a very, very long transect of eBird checklists.*

Warbler. This stunning sapphire gem of a warbler is a signature of the Appalachian woods. I longed to watch a beautiful male foraging, singing its buzzy rising song in its breeding territory. Yes, that's what I hoped for from this adventure.

#### THE GREEN TUNNEL

After six hours of hiking I hadn't raised my binoculars once. It wasn't because I

Appalachians are dense woods, known for their lushness and diversity, with more than 100 species of trees, more than any other forest in North America. And their thick stands of spring-blooming understory shrubs, such as Catawba rhododendron, mountain laurel, and native azaleas, are legendary.

The problem is, you can't see birds in a green tunnel. Nature recordist Gordon Hempton describes dense woods more

were infrequent, I'd simply listen to what the birds were saying, what Donald Kroodsma, author of *The Singing Life of Birds*, calls deep listening. Or I'd let the birds tell me something about the unknown trail ahead. If I heard Field Sparrows, we were heading toward a hot stretch across an open sunny power line cut. The songs of Chipping Sparrows meant a manicured trailhead area with comfortable seats at a picnic table. Most

## MOST COMMONLY ENCOUNTERED SPECIES

- Red-eyed Vireo
- Ovenbird
- American Redstart
- Eastern Towhee
- American Robin
- Tufted Titmouse
- Scarlet Tanager
- American Goldfinch
- Black-and-white Warbler
- Blue-headed Vireo
- Blue Jay
- Cedar Waxwing
- Hooded Warbler
- Eastern Wood-Pewee
- Worm-eating Warbler
- Dark-eyed Junco
- American Crow
- Black-throated Green Warbler
- Common Grackle
- White-breasted Nuthatch

**HIDDEN TREASURE:** During her hike, the author discovered this cavity nest with Black-and-white Warbler chicks.



important, the explosive *pit-see!* of an Acadian Flycatcher beckoned with a ravine stream where we could filter and refill our drinking water supply.

### MY BIRDING STRIDE

It takes time to build up the stamina to hike steep root-and-rock trails day after day. But it also takes time to build up the stamina to eBird for eight hours without tripping on those roots and rocks. At first it was overwhelming, a multi-tasking overload of coordinating my legs with cloddy boots, balancing the hefty backpack, swinging the trekking poles while tallying birds on my smartphone.

My memory retention was about five species since the trail all looked the same. Did I hear a Black-throated Green Warbler on this last uphill? Had I logged those two counter-singing Worm-eating Warblers yet? Just keep tallying and walking, I told myself, my steps a

metronome of Red-eyed Vireo, Ovenbird, and Scarlet Tanager.

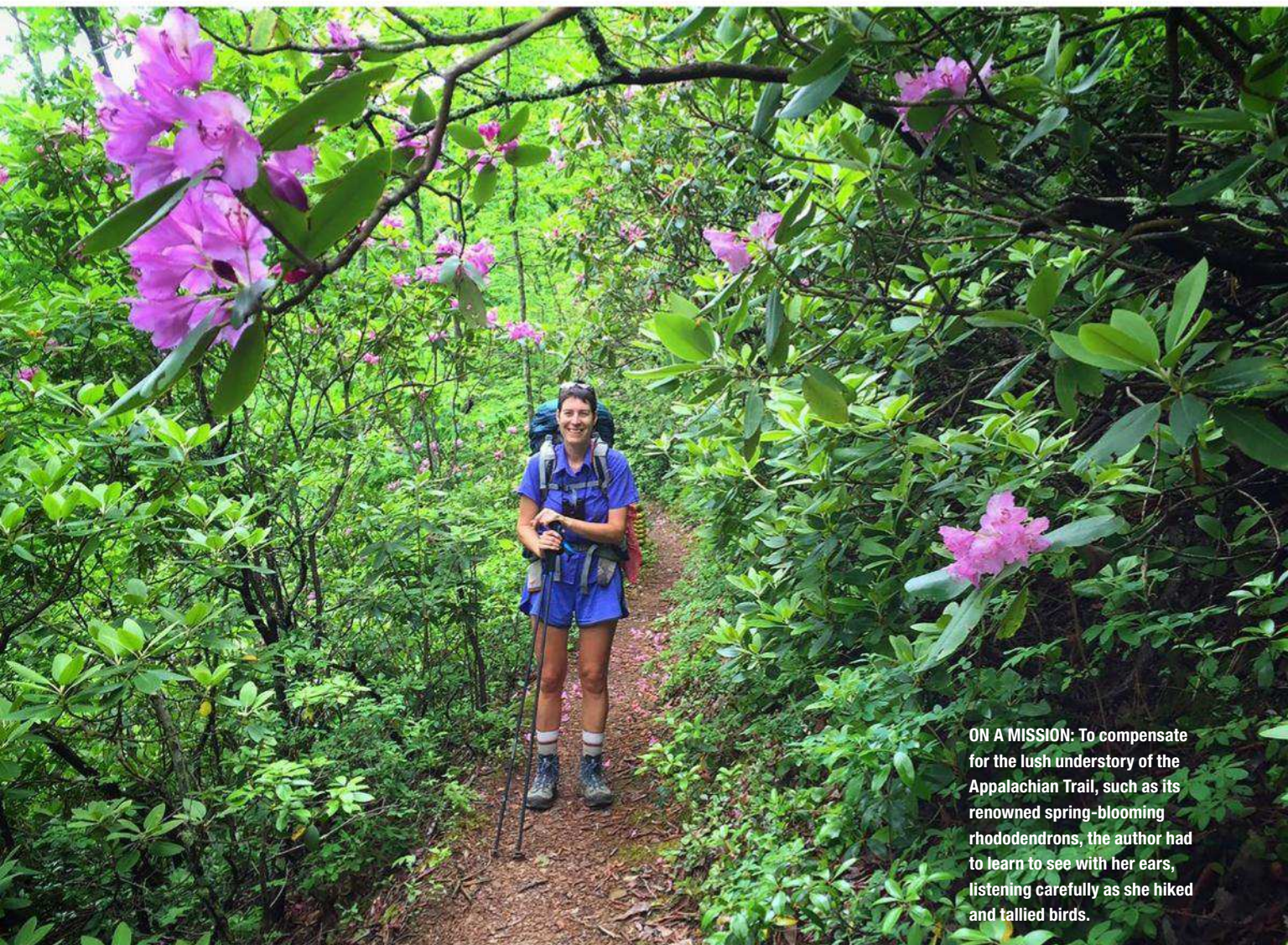
Heading down into a ravine, a buzzy song reminded me of Florida winters, a Northern Parula singing. Hold up! I stopped and listened. It was the two-tiered rising song with a high buzzy flourish of the hike's first Cerulean Warbler! I couldn't see it in the canopy, and I had fallen behind my husband, but it gave me a burst of energy to know this tiny neotropical migrant has traveled all the way from its wintering grounds in the northern Andes. If it could make the journey, so could I.

From then on, Cerulean Warblers seemed to be everywhere, males singing while foraging in the leafing-out hickory trees, often right alongside the trail. A few days later I showed a striking male to five uniformed rangers who had heard about a "rare bird" species in their park, but none of them

had ever seen one. They stood with binoculars up, oohing-and-aahing at what the Bird Conservation Alliance calls "North America's fastest declining migratory songbird." Sharing that one ambassador male to the rangers was better than all the others combined — a total of 91 Cerulean Warblers by the end of our hike.

Eventually, my nature hiking became second nature. The bird songs became as familiar as family. I could rapid-fire thumb-type into my eBird mobile app off a pouch on my pack strap, while glancing at the trail to keep from tripping. The hours flew by quickly as birdsong territories came and went. It became a meditative walk, an instantiation of the etymological roots of the word "saunter," from Saint Terre or Holy Land, all to a symphony of the Hermit Thrush's mnemonic, *Oh holy, holy... Ah purity, purity... Eh sweetly, sweetly.*





**ON A MISSION:** To compensate for the lush understory of the Appalachian Trail, such as its renowned spring-blooming rhododendrons, the author had to learn to see with her ears, listening carefully as she hiked and tallied birds.

But some confusing trillers would torment me. Another trill: Is it a Worm-eating Warbler, a Chipping Sparrow, a Pine Warbler, or a Dark-eyed Junco? Sometimes a bird would cooperate and sing by the book: the Worm-eating Warbler a fast insect-like trill, the Chipping Sparrow a long mechanical trill, the Pine Warbler a sweet trill, and the Dark-eyed Junco with ringing bell-like overtones. But they all weren't so cooperative, and I'd struggle with a myriad of middle-ground trilling. Sometimes I'd audio record those middlers and, like an evening parlor game, figure them out in that night's tent.

### THE NIGHT SHIFT

Some of the best birding while hiking is when you're off your feet, resting on a sleeping mat in a mosquito-proof tent with your tired tootsies elevated. In the

tent, I could lie down, rest, close my eyes in the middle of the vast oak-hickory woods, and see the avian surroundings with my ears.

One misty morning as hikers huddled over their jet-boils for coffee and oatmeal, a dirty, smelly, groggy hiker — no worse than us, of course — asked me, "What was that bird singing so beautifully right over our tents before sunrise?" Unfazed by the cluster of nylon tents, a Wood Thrush had chosen a twig overhead for its dawn performance. It would start with a *chup, chup*, as if clearing its throat before the big delivery, then launch into a variation of its haunting flutelike *ee-oh-lay-oh* song.

Tent-time is early morning and late evening, when bird song is at its best. Hempton points out that morning has the stillest atmospheric conditions, so sound propagates the farthest and with the most clarity, reaching its maximum

distance just before dawn. The birds' dawn chorus occurs then "to take advantage of cheap calling rates," as he puts it. Then the day's breeze is stirred by the heat of the rising sun and the auditory horizon shrinks, expanding again in the evening and on windless nights.

At last light, Barred Owls or Eastern Whip-poor-wills took their turn. The owls came boldly close to the shelters, which were infamous for the mice that thrived on high-calorie hiker crumbs. Shelter-sleeping hikers complained about the mice scurrying over their faces as they slept. Yet where there are hikers there are mice; and where there are mice there are owls, in an odd ecological relationship on the Appalachian Trail.

If the habitat was just right, the woods a bit more open, Eastern Whip-poor-wills would start up at twilight — a.k.a. "hiker's midnight" — in a strident unceasingly circular *Whip-poor'WHEEL!*





*Whip-poor'WEEL!, Whip-poor'WEEL!*  
But their all-night metronome never kept us bone-tired hikers from sleeping.

### SERENDIPITOUS SIGHTINGS

There were no lifers, nor any rare birds. Instead it was daily serendipity birding. Nevertheless, some avian surprise unfolded along every day's miles.

Warbler. At one time, these Appalachian breeders, distinguished by the males having black-striped backs instead of solid blue, were called Cairns Warbler. Now taxonomists debate as to whether they are a subspecies or a race.

Near Shenandoah's Skyland Lodge, I found my first Dark-eyed Junco nest, two adults busily feeding chicks in a

packed with juicy larvae. Up popped the waiting fledglings, as the adult fed them trailside, risking visibility for the task.

Since it was springtime, the noise of chicks sometimes revealed birds behind the green curtain. A nest cavity with a cacophony of squeaking was tended by a food-toting Yellow-bellied Sapsucker. This species was breeding two states

*As the forest structure changed hour by hour with elevation, slope, or sun orientation, the bird distribution switched like someone changing the channel on a radio.*

As the forest structure changed hour by hour with elevation, slope, or sun orientation, the bird distribution switched like someone changing the channel on a radio. An early morning program might be several Veeries singing like a quartet of flautists. Blue-headed Vireos would aggressively duel like talk-show hosts. All of a sudden, the playlist would change to include the buzzy *beer beer beeeee* of a Black-throated Blue

grass-domed structure, the chicks needing even more calories to compensate for the 36-degree temperatures. The juncos are also an Appalachian subspecies, breeding farther south than their compatriots, sporting an ivory-colored bill instead of the usual pink.

Rarely, we'd be graced with a bird willing to show itself, like a Wood Thrush that flew across the trail and landed on a fallen log with a bill jam-


south of the range shown in most field guides. Elevation in lieu of latitude.

And yes, we did see bears. Nine black bears, including a mother and two cubs sharing a creek as we warily filtered our drinking water.

### TEN THOUSAND BIRDS

My FitBit recorded 1,180,864 steps. Over a million steps between April 24, when we started in Harpers Ferry, West



A close-up photograph of a Canada Warbler perched on a mossy branch. The bird has a bright yellow body with black streaks on its chest and throat. Its head is a mix of grey and blue, with a yellow patch around its eye. It has a small, pointed beak. The background is a soft, out-of-focus green.

**ON THE WATCH LIST:**  
Canada Warbler and  
Wood Thrush (left) are  
two of many birds of  
conservation concern  
that can be found  
along the trail.

Virginia, and ended on June 29 in Damascus, Virginia. We didn't make our initial target of 533 miles, and we had to day-hike the last bit due to accumulating fatigue and schedule, but we finished 376 miles and logged 213 eBird checklists. I bird-walked through 92 Breeding Bird Atlas blocks, tallying more than 10,000 individual birds.

For all that walking, I encountered 123 species. I won't torture myself by calculating bird species per mile or dollar. Chock it up to a habitat that is fairly homogeneous: oak-hickory hardwood forest with a handful of pine or hemlock. Occasionally we'd walk through patches of high-elevation spruce, mountain meadows, cow pastures, and of course towns for re-supply. But I have no complaints about having Scarlet Tanager, Hooded Warbler, and Worm-eating Warbler among the most commonly

encountered species. (See sidebar.)

For all those birds, two were conspicuously absent. One of my assignments was to check the Appalachian Trail Conservancy's Open Area Tracts for Golden-winged Warblers, a species of concern due to habitat loss and hybridization with Blue-winged Warbler. About 30 successional tracts, typically high-elevation meadows or mountain farm pastures, are monitored for Golden-wingeds. Although the species is hanging on in a couple of tracts, I never encountered a single Golden-winged nor a Blue-winged Warbler.

Near the end of our adventure, I was disappointed to not have heard the drumming, nor flushed, a single Ruffed Grouse for all those miles walked. Driving back from our very last trailhead, I took a mountain road detour for one last goodbye vista of the

Appalachian Mountains. And there, resting smack-dab in the middle of the gravel Forest Service road, was an adult with two homely big-eyed chicks.

One last entry for the adventure: Ruffed Grouse — recently fledged young. 🐦

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*Diana Doyle is a former department editor for Birding, the American Birding Association's bimonthly magazine, a U.S. Coast Guard-licensed captain, and the founder of the Sea Bird Count, or SeaBC, a citizen-science project by long-distance boaters to count seabirds ([www.birdingaboard.org](http://www.birdingaboard.org)). She wrote "Big Green Birding Challenge" in our August 2010 issue. She's considering creating a multimedia ebook to common birdsongs of the Appalachian Trail so future thru-hikers can enjoy ear-birding the Green Tunnel.*

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*THE AUTHOR'S ACKNOWLEDGMENTS: Laurel Travis provided local hiking knowledge, shipped our food drops, and retrieved us when we were drenched. Edward Brinkley, Robert Ake, and Wendy Ealding of the Virginia Society of Ornithologists provided helpful avian resources and citizen-science ideas. This included the guidance and custom maps provided by VABBA2 Coordinator Ashley Peele and Appalachian Trail Conservancy's Natural Resource Specialist Conner McBane. And, of course, my husband, Mark, was navigator, route planner, hiking companion, and initiator of this very long bird walk.*



PHOTO ESSAY

# America's

Article and photos by Malkolm Boothroyd

**STARTING A FAMILY:** A Pacific Loon incubates eggs alongside a small pond near where the Turner River meets Demarcation Bay, in the northeastern portion of the Arctic National Wildlife Refuge.

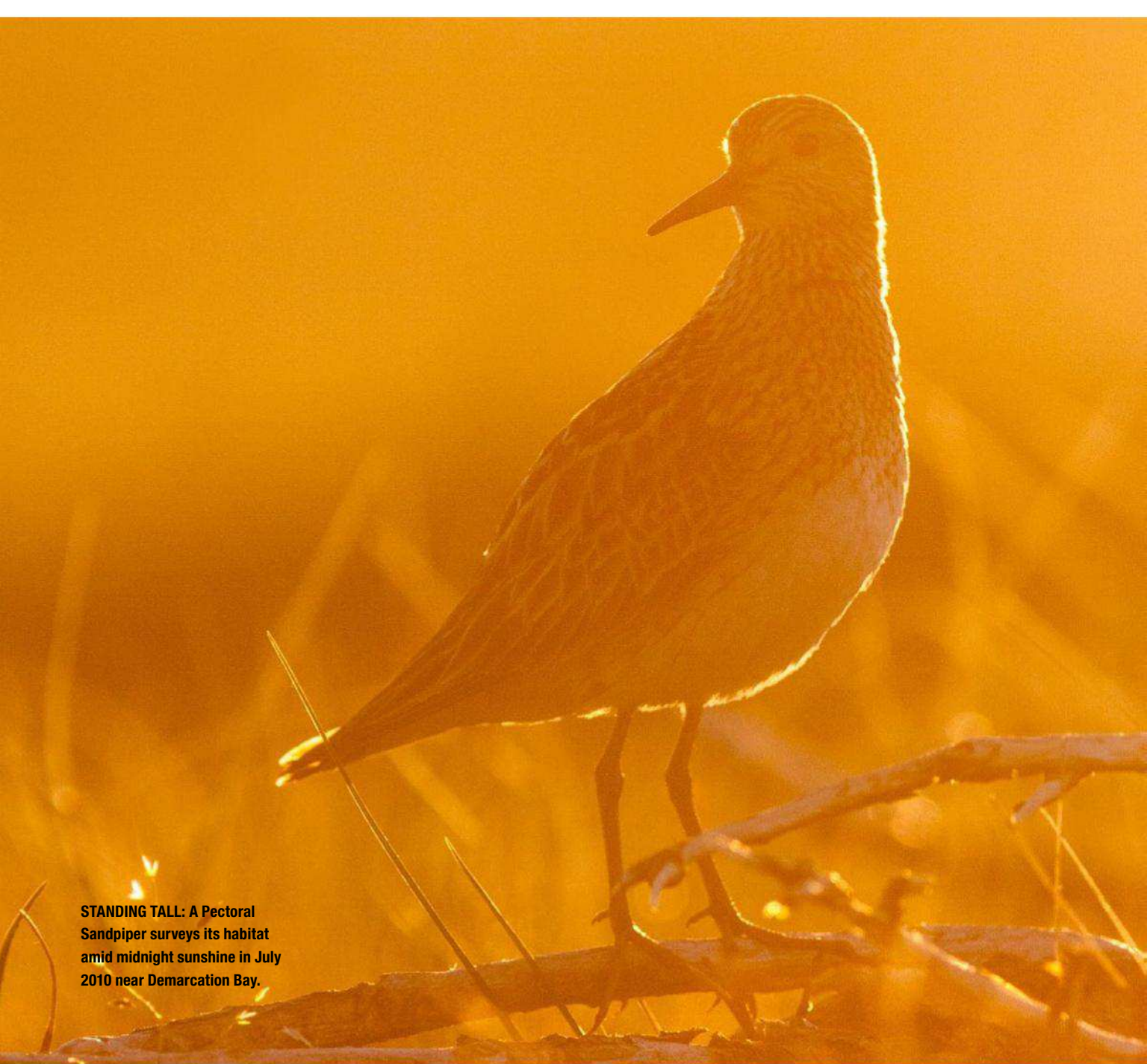


# *Serengeti*

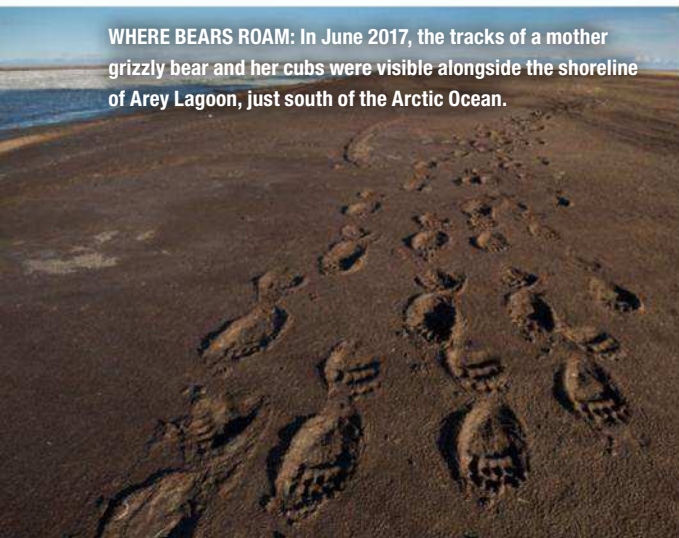
Views of the birds of the threatened  
Arctic National Wildlife Refuge







**STANDING TALL:** A Pectoral Sandpiper surveys its habitat amid midnight sunshine in July 2010 near Demarcation Bay.



**WHERE BEARS ROAM:** In June 2017, the tracks of a mother grizzly bear and her cubs were visible alongside the shoreline of Arey Lagoon, just south of the Arctic Ocean.



**SPOTTING A MEAL:** An Arctic Tern hovers near the Icy Reef, a series a barrier islands between the Arctic Ocean and the coast.



I was 7 years old on June 26, 1999, when our Twin Otter thudded down on a gravel bar, and I glimpsed the Arctic National Wildlife Refuge for the first time. My parents heaved our gear down from the plane, making heaps of yellow, purple, and red dry bags — garish against the dull ochre of the tundra all around. The engine bellowed as the aircraft took off, then the sound gradually softened, our connection to the rest of the world fading away. A minute later silence enveloped me, until my ears grew accustomed to the sounds of the wilderness around us; grasses stirring in the wind, the faint song of a Lapland Longspur, the distant thud as a melting iceberg crashed into the sea.

I hurried away to explore. I rescued minnows from a shrinking puddle and used a fallen caribou antler to carve drawings in the sand. A Pacific Loon hunkered over a nest on the shores of a nearby pond, surveying me through deep crimson eyes. Long-tailed Jaegers wheeled through the wind. A Semipalmated Plover scurried over the stones. In

our tent each night, I scrawled down the name of every new bird I'd discovered. We hiked back into the Brooks Range, where Rough-legged Hawks nested high on rocky spires and Northern Shrikes perched atop the stunted willows. Then we kayaked along the coastline, and I watched Snow Buntings darting among driftwood and processions of Common Eiders flying low over the sea ice.

That journey to remote northeastern Alaska kindled my lifelong fascination with birds. The Arctic National Wildlife Refuge is a haven to more than 200 species, birds that migrate through every state in the United States and to lands as distant as Argentina, India, and Antarctica. The refuge is also the calving ground of the Porcupine Caribou herd, critical to the culture and subsistence ways of life of Indigenous peoples across northern Canada and Alaska. But the Arctic refuge is alluring to more than birds and caribou — it has long been in the sights of the fossil-fuel industry.

President Donald Trump and his allies have reignited one of America's

fiercest environmental struggles: the controversy over oil drilling in the Arctic refuge. The GOP tax overhaul approved in December 2017 included a clause that could force development into the heart of the sanctuary. The fight over the refuge's future holds many ramifications: for Arctic ecology, for Indigenous peoples, even for global efforts to curb climate change. The Arctic refuge is pivotal for the environmental movement — a chance to save a place described as America's Serengeti while keeping a massive fossil-fuel reserve from making the climate crisis even worse. The Arctic refuge has been on the brink of destruction many times before, but efforts from Indigenous and environmental campaigners, alongside public pressure, have saved it in the past. Here's hoping we can stop this latest assault.

I've returned to the refuge five times since my first childhood visit. The Arctic refuge is a bird photographer's paradise — these photos are a snapshot of its avian diversity. They show what could be lost in the name of fossil-fuel extraction. 🐦

## OUR LARGEST WILDLIFE REFUGE

The Arctic National Wildlife Refuge, the largest refuge managed by the U.S. Fish and Wildlife Service, covers 19.6 million acres of the northeastern corner of Alaska. As shown on the map at right, the refuge borders Canada's Yukon Territory to the east and lies entirely north of the Arctic Circle. It has many rivers and no roads.

The 700-mile-long Brooks Range stretches across the refuge from east to west. The 1.5-million-acre Arctic coastal plain, known officially as the 1002 Area and shown on the map bordered in red, is the hotly contested site of potential oil development.

Most visitors go in summer for at least a week. Activities include hiking, camping, floating on rivers, hunting, fishing, and birding. Access is by airplane, and visitors must bring their own food and gear.

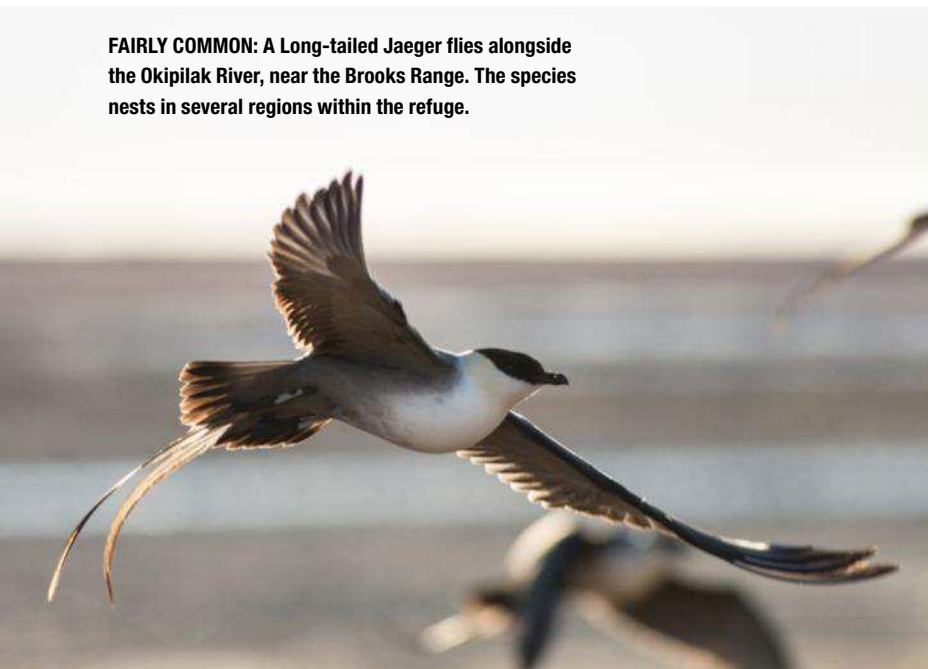




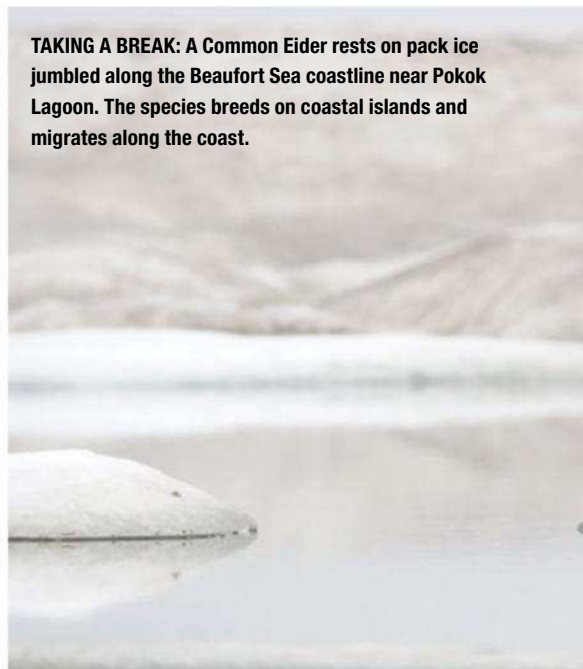
**SEA DUCKS:** A King Eider joined a flock of Surf Scoters in June 2017 over Arey Lagoon, near the village of Kaktovik.



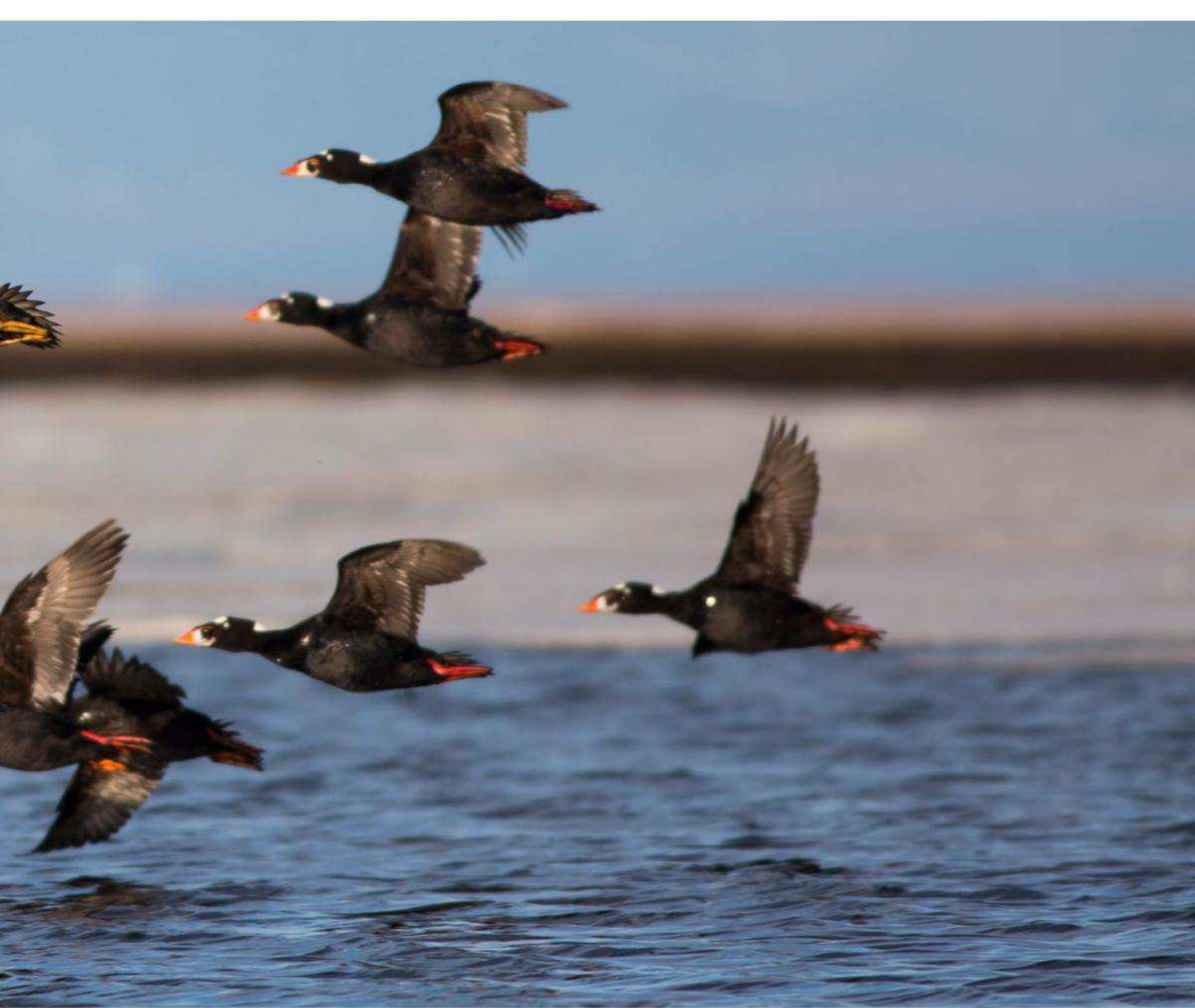
**FAIRLY COMMON:** A Long-tailed Jaeger flies alongside the Okipilak River, near the Brooks Range. The species nests in several regions within the refuge.



**TAKING A BREAK:** A Common Eider rests on pack ice jumbled along the Beaufort Sea coastline near Pokok Lagoon. The species breeds on coastal islands and migrates along the coast.







**SUMMER VISITOR:** A Dunlin calls near Pokok Lagoon, a bay on the North Slope. The bird is considered an uncommon breeder along the coast.





**AT HOME: A Tundra Swan sits on its nest in June 2017  
on Barter Island, near the Iñupiat village of Kaktovik.**



## **SLOWING THE RUSH TO DRILL**

While the recent tax law includes a provision to allow oil drilling on the Arctic National Wildlife Refuge's coastal plain, that doesn't mean it can't be stopped.

The law calls for the Department of the Interior to begin leasing land to oil drillers within four years, but some officials have said the first lease sale could occur as early as 2019. When the process is announced in the Federal Register, a comment period will begin.

"Birders can stay posted for comment periods, when they can express their support for Arctic Refuge protections," says Elisabeth Gustafson, the communications manager at Audubon Alaska. She encourages birders to take a pledge about the refuge at <http://ak.audubon.org/take-action>. The group will follow up with

anyone who takes the pledge about opportunities to submit comments.

"It will be very important to weigh in on this issue as the government moves forward with scoping, environmental studies, etc.," says Tim Woody of the Wilderness Society. "We have to slow the Trump administration's rush to drill."

Woody says it can be difficult to learn about comment periods, so in addition to the Audubon pledge, he encourages people to sign up for the Wilderness Society's "Wild Alert" emails at <https://wilderness.org/take-action>. The group's emails will invite readers to simply click a couple of buttons to send their comments.

"Eventually, if the balance of Congress changes, we can work to reverse the decision that was made to open the

refuge," Gustafson says. "So, raising awareness of the importance of the refuge across the country is valuable. One great way to do this is through letters to the editor and op-eds that focus on the birds that travel through the authors' states to breed in the Arctic."

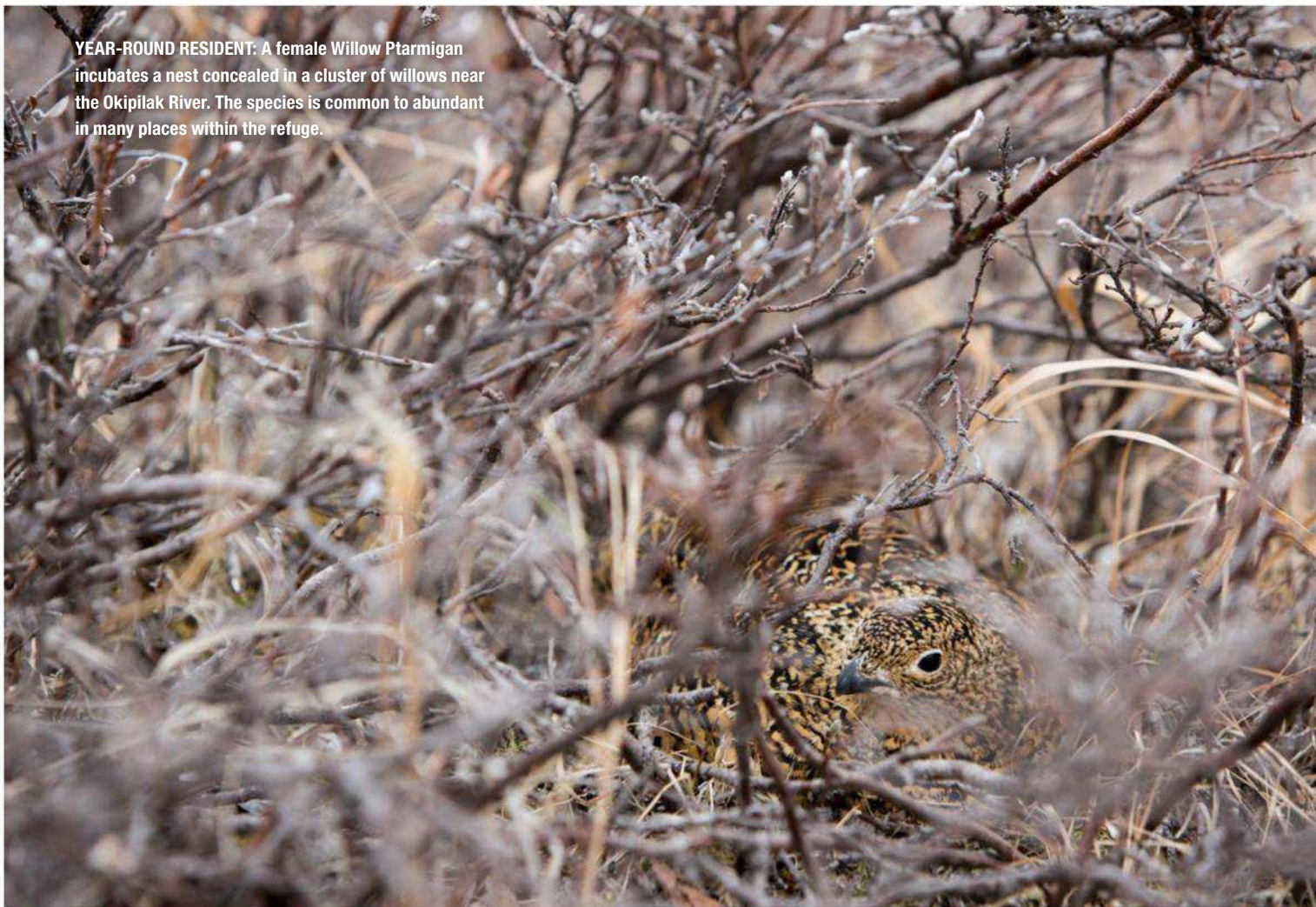
Birdwatchers can also participate in Alaska Audubon's Great American Arctic Birding Challenge (<http://ak.audubon.org/birds/2018-great-american-arctic-birding-challenge>). The contest, which ends June 1, challenges teams of birders in Alaska and the lower 48 states to find birds in their local areas that fly to the Arctic and then submit their checklists by email or postal mail. The data can also help bolster the connections between participants' backyards and the Arctic in letters to the editor or op-eds.



**STUNNING:** Fog rolls off the Beaufort Sea to envelop a group of caribou. This bull was among the leaders of a herd of approximately 1,000 caribou.



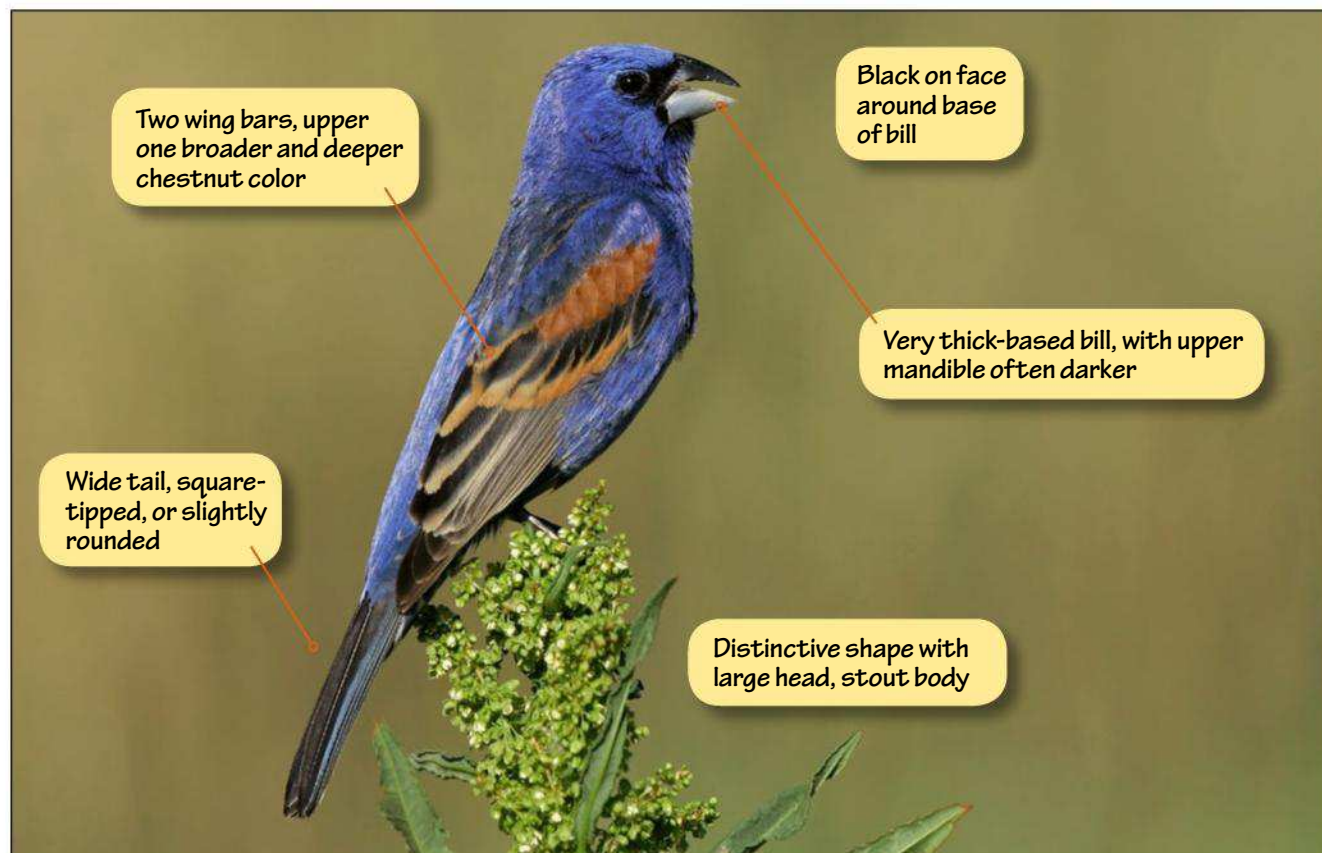
**YEAR-ROUND RESIDENT:** A female Willow Ptarmigan incubates a nest concealed in a cluster of willows near the Okipilak River. The species is common to abundant in many places within the refuge.



*Malkolm Boothroyd ([www.malkolmboothroyd.com](http://www.malkolmboothroyd.com)) is a 26-year-old birder and photographer from Whitehorse, Yukon. At age 15, he and his parents completed a fossil-fuel-free Big Year: an unsupported bicycle journey from the Yukon to Florida that doubled as an environmental and climate-change advocacy project. Ever since, he's taken on numerous climate change and conservation activism endeavors. He is completing a degree at the University of Victoria while spending his summers exploring the north.*



# Blue Grosbeak



Blue Grosbeak, adult male May in Kern County, California

## What to look for

**Size and shape.** A medium-small but chunky songbird, with very large bill, large head, stout body, and wide, square-tipped tail.

**Wing bars.** Two prominent wing bars; the upper one (tips of median coverts) is usually broader and more richly colored than the lower one (tips of greater coverts).

**Face pattern.** Male has black feathering around the base of the bill. Female has very plain brown face, contrasting with pale base of thick lower mandible.

**Body plumage.** Adult male blue all over, clouded with brown feather tips in fall. Young male wears a mix of brown and blue. Female is brown with blue tinges and has blurry stripes on the back but no streaking on the chest.

From coast to coast across the United States, Blue Grosbeaks are regular summer residents in dense streamside thickets. Most common in the south, they have spread northward in recent decades. They now breed regularly north to New Jersey, Ohio, and North Dakota, and migrants stray as far north as Canada in both spring and fall, so birders everywhere have reason to think about identifying them.

For many years, this grosbeak was classified in a genus by itself. It's now placed among the *Passerina* buntings, along with Indigo, Lazuli, Painted, and Varied Buntings. Although the Blue Grosbeak is distinctive after enough practice, it's easy to confuse this species with Indigo Bunting, so this column will focus on comparing those two species.

Adult males in breeding plumage are



easiest to separate. Indigo Bunting males are blue only in spring and summer, molting into a mostly brown plumage for winter, while adult male Blue Grosbeaks are blue all year. The grosbeak has rich chestnut-rufous wing bars, the upper one very broad. Young male Indigo Buntings can be mostly blue with brown in the wings, including brown wing bars, but they never approach the grosbeak's full pattern. In addition, male grosbeaks have black on the face around the base of the bill, lacking on the bunting.

So the adult males in spring and summer can be recognized at a glance by markings alone. But to improve your ID skills, it's important to do more than glance. Take time to study these birds carefully and memorize their shapes, because aspects of shape are the best ways to identify the species in other plumages.

Indigo Bunting might be described as being shaped like a "normal" bird, with no aspect standing out as unusual. Blue Grosbeak, however, is quite distinctive. Its bill is large and deep at the base; the pale base of the thick lower mandible makes its size more obvious. It has a large head (as large-billed birds generally do), and its body is stout. The overall stoutness of the grosbeak can make its tail seem relatively short, although this is partly an illusion. The tail is square or slightly rounded at the tip, not notched like that of the bunting, and often looks wide. This broad-tailed effect can be noticeable if you're looking for it.

For female-plumaged Blue Grosbeaks, wing pattern is the main field mark aside from shape. They always have contrasting wing bars, varying from buff to reddish brown, and the upper wing bar is usually broader and more colorful than the lower one. The back may have broad, blurry streaks, while the chest is unmarked brown. Female Indigo Buntings, by comparison, have plain brown backs and fine streaks on the chest. However, juvenile Blue Grosbeaks can show faint chest streaks, and streaks can be lacking on Indigo Buntings in worn plumage, so this is not a diagnostic point by itself.

Kenn Kaufman ([www.kaufmanfieldguides.com](http://www.kaufmanfieldguides.com)) has written several books on birds and nature. Brian E. Small ([www.briansmallphoto.com](http://www.briansmallphoto.com)) is a nature photographer whose photos illustrate many books.



**Blue Grosbeak, female** April in Galveston County, Texas

The female Blue Grosbeak is a subtle bird, with only hints of blue on the shoulder, rump, and tail. Overall body color varies from warm brown to dull gray-brown; the color is often richer on the head. The wing bars are always fairly conspicuous, varying from a dull buff-brown (as on the bird in this photo) to a brighter cinnamon-brown or chestnut-brown.

Blurry streaking is sometimes visible on the back, while the chest is plain and unstreaked; the female Indigo Bunting has a plain back and finely streaked chest. Despite these subtle differences in markings, elements of shape are most important for ID. The grosbeak's thick bill, big head, and chunky body are among its best field marks.



**Indigo Bunting, female** April in Galveston County, Texas

Few birds can match a female Indigo Bunting for being purely plain brown. None of our sparrows is so devoid of markings. That plainness, along with details of shape, can help to nail the ID. The bird does have wing bars, not obvious but always present except on some late-summer birds in very worn plumage. The wing bars can even look warm

buff, bringing to mind the pattern of a female Blue Grosbeak. Usually, they're barely different in color from the rest of the wing. Fine streaks on the chest are usually present but can be hard to see, as on this individual. And with a close look, a tinge of blue often shows on the tail, shoulders, and elsewhere.





**Blue Grosbeak, young male** April in Galveston County, Texas

One-year-old male Blue Grosbeaks in spring are quite variable, with almost any combination of blue and brown on the body plumage, but it's very common for them to have the blue feathers concentrated on the head and chest. Their wing pattern is not always as striking as on the bird in this photo, but they always show warm chest-

nut-buff wing bars, with the upper one usually more deeply colored than the lower one. They usually show at least some black feathering around the base of the bill, lacking on Indigo Buntings. But some have only a little blue in the plumage and not much contrast in the wings, so a solid identification will rest on the bird's distinctive shape.



**Indigo Bunting, young male** April in Galveston County, Texas

As with the Blue Grosbeak, one-year-old male Indigo Buntings are extremely variable in body plumage, from almost all brown to almost all blue. It's common for them to show narrow, contrasting brown wing bars, but these shouldn't be mistaken for the wider, more colorful wing bars of the grosbeak. In case of any doubt, the two species can be separated by their

different shapes; the bunting never matches the grosbeak's huge-billed, big-headed, thick-bodied silhouette. Among other minor points of shape differences, Blue Grosbeak often appears to have a wider tail than Indigo Bunting, but when the bunting spreads its tail (as the one in the photo is doing), this difference is obscured.

## Late and early

Although I've watched Blue Grosbeaks in many places, my lasting impressions of them come from southeastern Arizona. They have a different timing there. Across most southern states, from the Gulf Coast to southern California, spring migrant Blue Grosbeaks can be expected in April. That's true even in western Arizona. But in southeastern Arizona they can be hard to find in April, and they may not be present in full numbers until late May.

Apparently, they don't have to rush to grab the best territories. Although some start nest-building in May, their main breeding season in that region is late summer. In the southeastern Arizona lowlands, June is the hottest and driest month. Summer rains start in July, and by August the valleys are green again. Blue Grosbeaks are actively raising young in this green season, and some pairs may not fledge young until September.

These late-summer breeders may be early in one way: as morning singers. A few times I was out in prime habitat in southeastern Arizona, well before daylight in August, and found that these grosbeaks were among the first birds to sing. When a hint of light touched the eastern horizon, the rich, husky warbling of male Blue Grosbeaks came from far and near in the thickets. Eventually, other species chimed in. I've always wondered: Are Blue Grosbeaks elsewhere such early singers, or is that just an Arizona trait? 🐦



hotspots**near**you

Harrison Lagoon, British Columbia

**HOTSPOTS 275-276**

**no. 275 harrison lagoon and east sector park** harrison hot springs, british columbia

**no. 276 kern national wildlife refuge** delano, california

**THIS SUMMER, THE 27th** International Ornithological Conference will be held August 19-26 in Vancouver, British Columbia, at the same time as the Vancouver International Bird Festival. It will be the first time the world's largest meeting of ornithologists takes place on the Pacific Coast of the Americas. I hope some of the attendees get the chance to bird in Harrison Hot Springs, just east of the metro area, at the Harrison Lagoon (above) and East Sector Park. Turn the page for a description of the excellent birding at the two sites written by our friend Gord Gadsden, the eBird reviewer for the Fraser Valley region. Plus, longtime contributor Jerry Uhlman explains why you should go birding at Kern National Wildlife Refuge, in California's Central Valley. — *Matt Mendenhall*



# harrison lagoon and east sector park

## harrison hot springs, british columbia

49°18'11.91"N 121°46'58.50"W



Harrison Lagoon is located at the southern end of Harrison Lake, and East Sector Park is located 1.2 km (0.75 miles) to the southeast. To reach the lagoon from Hwy. 7 (Lougheed Hwy.), head north on Hwy. 9 (Hot Springs Rd.) for 6.4 km (4 miles) to Esplanade Ave. and turn right. Park along the street and walk north to the lagoon.

**Harrison Lake** is the largest lake in the southern Coast Mountains of Canada. Located in the Fraser Valley east of Vancouver, it covers about 250 square km (95 square miles) and is about 60 km (37 miles) long. This may be why it snares a good share of bird species that would be more typical of a pelagic birding adventure.

Harrison Lagoon and the nearby East Sector Park are two spots at the southern end of the lake that are worth birding any time of year. They feature a variety of habitats, attracting a wide range of bird species. On a spring or fall morning, it's not unusual to see more than 50 species.

An added bonus is that I never know what surprise will pop up. Shorebirds are annual migrants, and they often provide very good views as they feed in the lagoon. Migration brings many sparrows and the occasional Horned Lark and Lapland Longspur to feed in the stunted shrubs and grass.

After birding the lagoon area, I put away my scope and head to the forest in East Sector Park — an excellent site for songbirds. This includes annual breeding Hutton's Vireos. The park offers varied forest types, a marsh, and a slough. — *Gord Gadsden*

*Gord Gadsden is the founder of [fraservalleybirding.com](http://fraservalleybirding.com) and the eBird reviewer for the Fraser Valley. He also wrote about Eagle Point Community Park in Harrison Mills, Hotspot Near You No. 124.*

## sites nearby

### Chehalis Estuary

About 20 minutes southwest in Harrison Mills off Hwy. 7. Breeding Purple Martins and Bullock's Orioles. Excellent Bald Eagle viewing in winter in the estuary.

### Hope Airport

About 40 minutes northeast at Flood Hope Rd. 4 km of country roads surround airport. Look for Northern Shrike, MacGillivray's Warbler, and Lazuli Bunting.

## AT A GLANCE

### HABITAT

Lake, shore, forest, marsh, and agricultural.

### TERRAIN

Trails and pathways mostly flat. East Sector Park's 4 km of trails have exposed roots in areas and some wet spots after heavy rain.

### BIRDS

Lagoon and lake: Loons, grebes, ducks, gulls, shorebirds, Horned Lark, Lapland Longspur, Yellow Warbler, Osprey, Surf Scoter, American Pipit, Caspian Tern, Savannah, Vesper, and other sparrows. East Sector Park: Virginia Rail, Wood Duck, Black-throated Gray, Townsend's, and Nashville Warblers, Chestnut-backed Chickadee, Bullock's Oriole, Western Tanager, Swainson's Thrush, Anna's Hummingbird, Lazuli Bunting, Hammond's and Pacific-slope Flycatchers, Varied Thrush. Rarities: Eared Grebe, Sabine's and Franklin's Gulls, Red Phalarope, Arctic Tern, Surfbird, Stilt Sandpiper, American Avocet, Black Scoter.

### WHEN TO GO

East Sector Park best from spring to early fall. Lagoon and lake worthwhile year-round; best in spring and late summer/fall through early winter.

### AMENITIES

East Sector Park has an information kiosk and well-signed trails, as well as a pit toilet and small picnic area.

### ACCESS

Public beach. Park managed by Fraser Valley Regional District. Parking free for East Sector Park. Pay parking is in effect in select locations around the lagoon. It is about a 20-minute walk or a three-minute drive between the lagoon and park.

### TIPS

Bring a spotting scope when birding the lagoon to look out over the lake. During June and July, bring bug repellent.

### FOR MORE INFO

East Sector Park, [www.fvrd.ca](http://www.fvrd.ca). Local birding forum, [www.bcbirding.proboards.com](http://www.bcbirding.proboards.com). Email [gord@fraservalleybirding.com](mailto:gord@fraservalleybirding.com) for recent reports or to ask questions.

[www.BirdWatchingDaily.com/hotspotsmap](http://www.BirdWatchingDaily.com/hotspotsmap)



## AT A GLANCE

### HABITAT

Two large impoundments, surrounded by wetlands, marshes, and mudflats. Depending on the managed water level, grasslands and scrub brush may cover roughly 3,500 acres.

### TERRAIN

Mainly flat and level, perfect for walking portions of the auto loops.

### BIRDS

More than 225 species, including over 20 duck species. Breeding: Gadwall, American Wigeon, Mallard, Blue-winged, Cinnamon, and Green-winged Teal, Northern Shoveler, Northern Pintail, Canvasback, Redhead, Ruddy Duck, White-tailed Kite, Northern Harrier, Red-tailed Hawk, Virginia Rail, Black-necked Stilt, American Avocet, Black Tern, Anna's Hummingbird, Blue Grosbeak, Song Sparrow, Red-winged, Tricolored, and Yellow-headed Blackbirds. Winter: Greater White-fronted Goose, Eurasian Wigeon, Common Merganser, Long-billed Curlew, Long-billed Dowitcher, Ferruginous Hawk.

### WHEN TO GO

October through February for waterfowl and raptors. February and March for shorebirds. April through June and late July through October for migrant songbirds.

### AMENITIES

Educational kiosks and viewing platforms located along auto routes. Restrooms at headquarters and along auto routes.

### ACCESS

National wildlife refuge. Open daily from one-half hour before sunrise to one-half hour after sunset. No fees. During waterfowl hunting season (October to January), auto loops closed on Wednesdays and Saturdays (call 661-725-2767 for details).

### TIPS

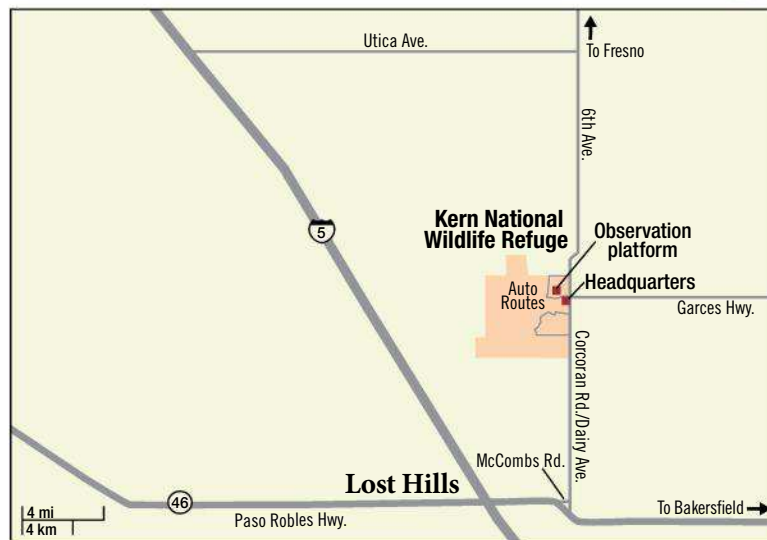
Best birding often along western side of the impoundments.

### FOR MORE INFO

Kern National Wildlife Refuge, [www.fws.gov/refuge/kern/](http://www.fws.gov/refuge/kern/).

[www.BirdWatchingDaily.com/hotspotsmap](http://www.BirdWatchingDaily.com/hotspotsmap)

## kern national wildlife refuge delano, california 35°44'37.79"N 119°36'54.51"W



**Kern National Wildlife Refuge protects 11,249 acres at the southern end of the San Joaquin Valley. From northboard I-5, exit onto Hwy. 46 and turn left onto Corcoran Rd./ Dairy Ave. From southbound I-5, exit onto Utica Ave., head east to 6th Ave., and turn right. At the intersection with Garces Hwy., turn west to the refuge entrance.**

**Kern National Wildlife Refuge** is a crown jewel in a thin chain of parks and refuges that stretch along California's Central Valley like a dark green necklace. These tiny islands in an ocean of agriculture and urban development support more than 300 species of birds as they ply the Pacific Flyway.

The refuge is managed for waterfowl; as many as 80,000 ducks and geese overwinter on Kern's pools, marshes, and scrub grasslands.

I particularly enjoy driving slowly along the refuge's auto loops that meander among the pools. Before dawn, the refuge awakens to a cacophony of goose and duck calls from distant shapes in the twilight. Later, early morning flights of waterfowl can be spectacular sights, especially when raptors unexpectedly appear, sending ducks and geese exploding into the sky. I often have better luck finding raptors than songbirds here. Harriers and Red-tailed and Red-shouldered Hawks are common, and sometimes a Peregrine Falcon or Golden Eagle will come into view.

Early spring, beginning in late March, brings passerine traffic. This is when I pay more attention to brushy riparian areas and remnant forest patches. — *Jerry Uhlman*

*Jerry Uhlman is a writer and photographer who writes birding and travel articles for nature magazines and newspapers.*

### sites nearby

#### Pixley National Wildlife Refuge

26 miles northeast of Kern. 7,000-acre preserve that attracts Sandhill Cranes and waterfowl. 1.5-mile boardwalk passes through wetlands.

#### Lake Success

57 miles northeast of Kern on Hwy. 190, near Porterville. This 2,400-acre lake has opportunities for waterfowl viewing. Campground convenient to national wildlife refuges and Sequoia National Forest.

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**JUMP AROUND:** The Swallow-tailed (or Blue) Manakin's courtship features a frenetic "jump dance."

## Dazzling displays

*Why manakins engage in wild courtship rituals*

Few birds are as exciting to watch as manakins. They are small, active, and colorful like warblers, have elaborate courtship displays that include dancing and gymnastics, and combine a variety of non-vocal sounds with their singing.

About 50 manakin species inhabit moist forests in Central and South America and feed largely on fruit, which, surprisingly, has allowed them to develop such wild courtship displays.

Because fruit is usually plentiful, manakins are not resource limited, and females do not select males based on their ability to provide food. Consequently, females select males on the

basis of individual sexual traits, which has intensified the birds' brilliant colors, special vocalizations, and elaborate displays.

The non-vocal sounds produced by the males of many manakin species involve wing movements, which can be enhanced by structurally modified inner wing feathers (secondaries). Sounds vary widely and include whirrs, clicks, snaps, and pops. The sounds are produced by combinations of air moving through the feathers, wingtips slicing through the air leaving a vacuum to be filled by rushing air, or wing feathers striking their bodies or scraping fanned tail feathers. The

loudest pops occur when the backs of the wings strike each other above the bird.

Freed from visiting male territories across the countryside, sexual selection allows females to simply go to where the males are gathered and observe (read: evaluate) them. Out of this came lekking, a courtship method in which males create individual display areas called leks; they try to attract females into the leks for courtship and breeding. Leks allow females to observe many males in a short time.

Golden-collared Manakin offers an example of a simplified lek system. Males create several leks that are close together. The leks are on bare ground, where the males remove leaves and litter so the females can see them better. Each lek is about 3 or 4 feet in diameter. The leks include several small, slender saplings (half-inch in diameter or smaller) the birds use as perches. The males move rapidly from perch to perch, giving a wing snap while in the air that sounds like a small firecracker.

If a female is within earshot, she may come to the lek and check him out. If sufficiently impressed, she'll enter the lek and follow his erratic flights. He seems to barely touch a sapling before springing off, with the female in hot pursuit. The rapid and erratic movement continues, then intensifies, reminding me of an old-fashioned pinball machine. When she is sufficiently excited, she perches on a branch and the male joins her, hoping that mating will follow. If not sufficiently stimulated, she will fly off to another lek and see what that male has to offer.

Sometimes, it takes more than one male to properly stimulate a female for copulation. With the Swallow-tailed Manakin, for example, a dominant male (alpha) forms an association with a beta male to help him stimulate the female. The alpha male perches higher above the lek than other males, acting as a sentinel, and sings to attract females.

It might seem illogical for beta and other males to help the alpha male successfully breed, with no reward. The answer lies in the future. If alpha dies or leaves the territory, beta has the best



chance to inherit the lek.

If a female enters the lek and perches on a display branch, the alpha and beta males follow and perch next to her, alpha closest. In a jump dance, the alpha male leaps up and hovers in front of the female before circling back to the branch. The beta male leaps off the perch to repeat the dance. Sometimes a third male, from a group of extras near the lek, joins in, which increases the dance line by one and makes the performance more spectacular.

Jump dances continue for a long time (often exceeding 50 jumps) until the female is properly stimulated as demonstrated by her response, such as increased body movements, jumping, and wing flicking. The alpha male signals for the other males to leave, and he does a special solo dance that is intended to lead to copulation.

The most bizarre example of sexual selection is the clear violin-like tones produced mechanically by Club-winged Manakins. Researchers Kimberly Bostwick and Richard Prum discovered the mechanism and first reported it in 2005 in the journal *Science*.

The inner wing feathers (secondaries) of the Club-winged Manakin include one with a small blade, or pick, on the shaft (rachis) and the adjacent feather with an enlarged rachis, usually with seven ridges. When the manakin shakes its wings over its back, the feathers rub together and the pick scrapes the ridges, creating a tone at 1500 hertz. The tremendous wing speed required to create the sound is provided by enlarged wing muscles. The mechanical production of sound by rubbing structures together is called stridulation; it's common in insects such as crickets but has not previously been reported for vertebrates.

The dazzling visual and audio courtship displays of manakins reflect strong sexual selection and demonstrate again the amazing behaviors of birds. 🐦

Eldon Greij is professor emeritus of biology at Hope College, located in Holland, Michigan, and the founder of *Birder's World* magazine.

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**YARD BIRD:** Laura Erickson may plant mountain ash trees — favorites of Bohemian Waxwings.

## Filling a gaping hole

*After losing a favorite tree, it's time to plant anew*

When we moved into our house in 1981, in a long-established neighborhood, many of our backyard trees showed serious signs of age. Our house didn't seem jeopardized, and so even though my mother-in-law advised us to take them down, we kept them.

Thirty-seven years later, most are still standing. But during a fierce summer storm in 2016, I lost my favorite tree of all — a huge Norway spruce planted during World War I by a little boy in the neighborhood to memorialize his big brother who had been killed in Europe. That tree caught my eye when I was looking for a house to

buy. On the pinnacle of that tree, I've seen crossbills and other cool winter finches, an occasional Olive-sided Flycatcher perching during brief migratory stopovers, and a Great Horned Owl on January 1, my very first bird of 1991. (I wrote about the tree in the December 2015 issue.)

I was heartbroken to lose that treasured part of my own life and such a lovely memorial to one of our neighborhood soldiers. But its wood lives on. We cut the trunk into 18- to 24-inch lengths, and I've placed them around my yard in favorite spots for watching birds — they make perfect seats. I have

a small, tent-style photo blind, and I can set it up over any of these seats when I don't want the birds to notice me as I photograph them.

### GOING NATIVE

As nice as the stumps are, there's a gaping hole where my lovely tree once stood. Now we're deciding what to plant there. As much as I loved the tree and treasure the sweet sentiment of a grieving little boy a hundred years ago planting something for the ages, the new tree will be a locally native species. A large shade tree won't work in that part of the yard, near the power line — spreading branches would have to be lopped off near the wires. We're thinking of putting in a couple of mountain ashes or Juneberries. While we're at it, we will also plant two dwarf cherry trees for pies and a taller one for the birds. And we'll protect a couple of box elder seedlings from our current trees to ensure that we always have a few of these Evening Grosbeak-friendly trees here.

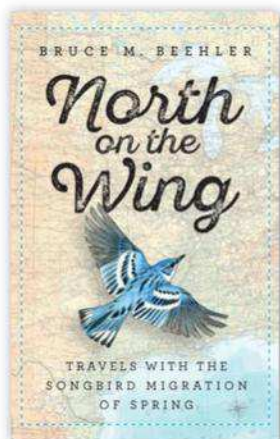
One of my friends planted oak trees when he was in his 50s, and several of his friends told him he was crazy — the trees wouldn't be harvestable during his lifetime. But he wasn't growing them for monetary profit. They quickly gave him the reward he wanted — warblers and Scarlet Tanagers feeding in the newly budding branches each spring. Year after year, those oaks reward him in ways money can't buy. I can't replace my lovely old spruce with an oak. Even if the power line weren't there, my clay soil wouldn't support one.

I've seen firsthand that trees don't last forever. But the life of an individual tree can last longer than human generations. At each stage of their lives, trees offer rich value for wildlife and for people who reckon value beyond dollars and cents. 🐦

Laura Erickson, the 2014 recipient of the American Birding Association's highest honor, the Roger Tory Peterson Award, has written 11 books about birds and hosts the long-running radio program and podcast "For the Birds."



# New books for birders

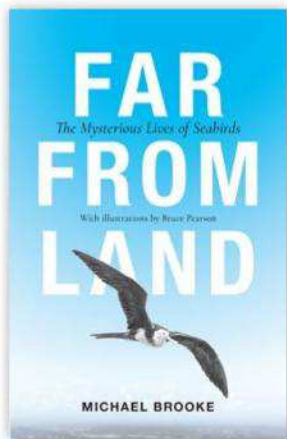


**North on the Wing: Travels with the Songbird Migration of Spring**, by Bruce M. Beehler, Smithsonian Books, 2018, hardcover, 256 pages, \$24.95.

While you enjoy the rush of migrants this spring, do yourself a favor and pick up this book. In spring 2015, author Bruce Beehler, an ornithologist with the Smithsonian National Museum of Natural History, traveled north with the songbird migration. He began in Texas, went up the Mississippi Valley, and continued to the north woods of Ontario. In attempting to find all 37 eastern wood-warblers, Beehler encountered people and organizations dedicated to studying and conserving the habitats that migrant birds rely on, and he came back feeling hopeful.

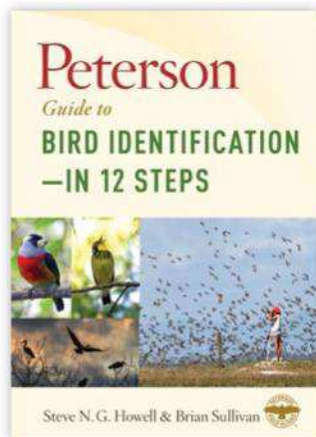
**Far From Land: The Mysterious Lives of Seabirds**, by Michael Brooke, Princeton University Press, 2018, cloth, 272 pages, \$29.95.

Discoveries about songbirds thanks to miniature tracking devices have received quite a bit of attention over the last 10 years or so, but did you know that the devices also have revealed fascinating details about the world's seabirds? In this book, Michael Brooke, a seabird expert at the University of Cambridge, sheds light on the elusive lives of albatrosses, frigatebirds, and other ocean wanderers. In answering questions such as where puffins and Cory's Shearwaters go in winter, Brooke dispels the myth that seabirds are aimless, wind-tossed creatures.



**Peterson Guide to Bird Identification—In 12 Steps**, by Steve N.G. Howell and Brian Sullivan, Houghton Mifflin Harcourt, 2018, hardcover, 160 pages, \$17.95.

When you're new to birdwatching, identifying a bird can be daunting. In this gem of a book, expert birders Steve Howell and Brian Sullivan break the ID process down into 12 logical steps. They don't begin with colors or shape but with taxonomy, location, habitat, season, and other things every birder should understand but sometimes overlook. The book should be required reading for anyone who is new to the hobby, but it has plenty of wisdom sprinkled through it that even advanced birders can learn from it.

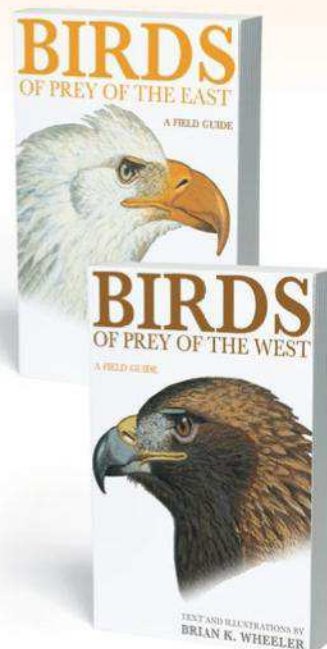


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# Spring is here



▲ **WITH A SONG IN ITS HEART:** Jeff Crawn of Newton, New Jersey, found this singing Indigo Bunting at the Delaware Water Gap National Recreation Area, on the Pennsylvania/New Jersey border. He photographed it with a Canon 1D X Mark II camera and a 600mm f/4 lens.



◀ **STARE DOWN:** Don Young was sitting on a marina dock in Ocean Springs, Maryland, when this immature Brown Pelican landed on a pylon about a foot above his head. The bird stuck around for about 20 minutes, giving Young time to lie down with his Canon 80D and 100-400mm f/4.5-5.6 lens to shoot this unique image.

▼ **LOOKING HIS BEST:** A drake Harlequin Duck preens, showing off its varied plumage. Michael Rossacci photographed the bird at Andrews Point in Rockport, Massachusetts, using a Canon 7D, a 300 mm f/2.8 lens, and a 1.4x extender.





▼ THE SKY ON ITS

**BACK:** Anthony Louviere shot this portrait of an Eastern Bluebird in December in Louisiana. He used a Canon 7D Mark II with a 500mm f/4 lens.





◀ **SHOWING OFF:** A White-eared Hummingbird hovers at El Pilar Nature Center in Antigua, Guatemala, in November 2016. Kim Nagy took the photo with a Canon 7D Mark II and a 100-400mm lens.

▼ **ENDEMIC:** During a trip to Cuba last December sponsored by *BirdWatching*, Rich Shaughnessy of Greenbank, Washington, found this Bare-legged Owl. He made the photo with a Canon 7D Mark II and a 100-400mm lens.



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▼ **COUNT EVERY FEATHER:** Doug Rogers shot this photo of a Snowy Owl in late December 2017 in West Point, Virginia. He used a Canon 7D Mark II, a 300mm lens, and a 2x teleconverter.



► **NONPAREIL:** In March, Musa Awan photographed this Painted Bunting in central Florida with a Canon 7D Mark II and a 100-400mm lens.

## Let's hear from you!

Submit photos as full-resolution, high-quality JPG files via email (no TIFFS, please). Include a short description of the photo; include the bird name, the equipment used, and the location. Please include your name, address, phone number, and email address. If we publish a story or photo of yours, we'll send you a complimentary copy of the issue in which it appears. There's no payment for use of text or photos in "Your View."

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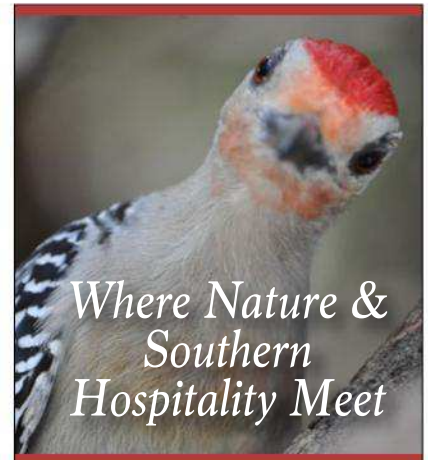
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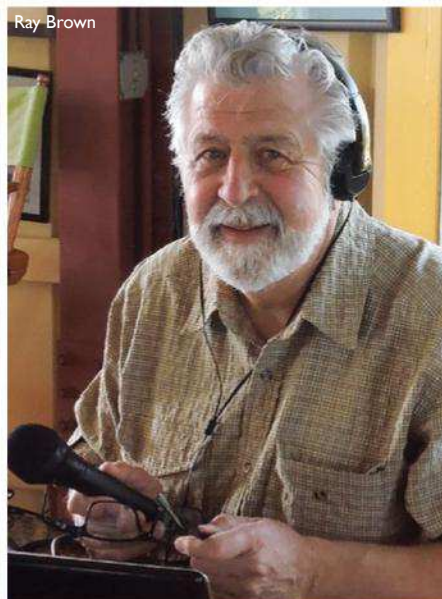
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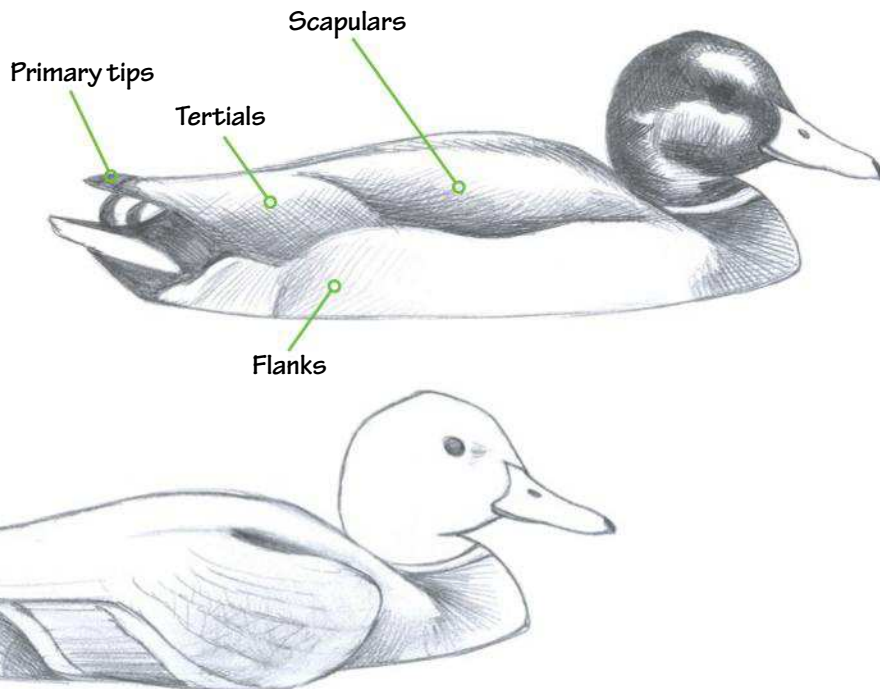
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**DISAPPEARING ACT:** In normal swimming posture, a drake Mallard (above) hides its wings under scapulars and flanks. Only the tertials and primaries are visible. The illustration below depicts the same bird and how its wing would appear if it were visible.



# How waterfowl hide their wings

*Become a better birder by understanding where feathers go when wings are folded*

The avian wing is a marvel of engineering: lightweight but incredibly strong, stiff yet flexible, forming an airfoil that is instantly adjustable to any conditions, and when not in use folding into a thin panel and tucking neatly out of the way along the side of the bird's body. Understanding how the wing works and where the different feather groups go as the wing spreads and folds is an important bit of fundamental bird-ID knowledge. In this column, I'll explain how the wing fits into the body feathers at rest.

The wing is composed of specialized flight feathers and coverts, adapted to be stiff and flat to stand up to the rigors of flight and to create a good aerodynamic surface. They are not so good for insulation. This means that when the wing is folded along the side of the body, other feathers must keep the bird warm.

In my column in the August 2017 issue ("Avian air conditioning"), I described how songbirds use wing position to regulate their body temperature. In extreme cold, the flank feathers fluff out from below, along with the scapulars from above, so that these body feathers cover most of the wing and insulate the body.

Birds that spend a lot of time swimming face the added challenge of keeping water away from their body. Ducks and geese take wing stowage to the next level — the wing is almost entirely hidden all of the time. On a swimming duck, the flank feathers wrap up around the sides to cover most of the wing, and the scapulars spread down to meet the flank feathers. The only parts of the wing left exposed are the largest feathers visible toward the rear of the bird, generally a couple of large tertials (the

innermost wing feathers) and the tips of the longest primaries. Everything else is hidden underneath the waterproof shell of flank and scapular feathers. In a way, the duck is riding in a "boat" of feathers: The long flank feathers extend above the waterline to form the gunwale. The scapulars act as part of a canopy, and the folded wing simply tucks down inside it all.

In birding, knowing what you can't see is often helpful, and on a swimming duck, keep in mind that you will see very little of the wings. 🐾

David Allen Sibley is the author of *The Sibley Guide to Birds*, *Second Edition*, *Sibley's Birding Basics*, and field guides to the birds of eastern and western North America. In our last issue, he explained how understanding eye-rings can improve your bird-ID skills.



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# Worldwide Birding SINCE 1976

Every two years, our tour leaders and office team gather at our home base in Austin to reconnect with colleagues, renew acquaintances, and discuss important issues that affect our business.

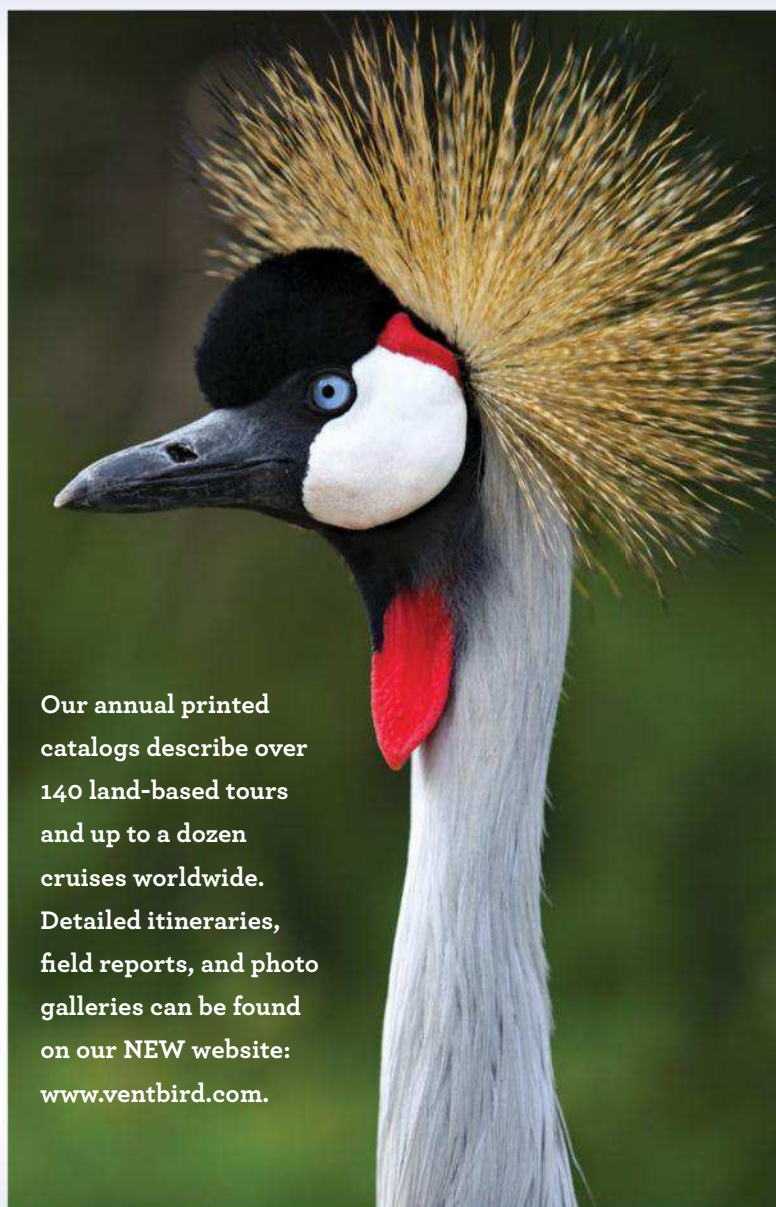
This year, in addition to our entire Austin-based office staff, our company meeting included two of our longtime business advisors and nineteen tour leaders representing six continents and seven countries. We hosted leaders from Australia, Brazil, Ecuador, South Africa, Spain, the United States, and Venezuela.

The meeting made abundantly clear what a terrific company we have, thanks to our intelligent, dedicated, and hard-working tour leaders and office team. Through the years, Victor Emanuel Nature Tours has evolved into a community, and not by accident. This evolution has occurred as a result of a covenant that exists between VENT's management and its staff, in which the company does all it can to make it possible for our employees and their families to have good lives, and they in turn do all they can to make VENT successful.

As we gathered at this year's meeting, I felt a great sense of pride for the company we have all worked so hard for so many years to create. As we embark on our 42nd year, the future of our company is bright, thanks to our wonderful employees and to you, the people who honor us by taking our tours.

~ Victor Emanuel

**VICTOR  
EMANUEL  
NATURE  
TOURS**



Our annual printed catalogs describe over 140 land-based tours and up to a dozen cruises worldwide. Detailed itineraries, field reports, and photo galleries can be found on our NEW website: [www.ventbird.com](http://www.ventbird.com).

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PHOTO GALLERY

# TARGET BIRDS

Enjoy this photo gallery of species that you can  
see at the locations featured in this issue's  
"Hotspots Near You."



White-tailed Kite

**harrison lagoon and east sector park**  
harrison hot springs, british columbia



Western Tanager



Chestnut-backed Chickadee



Surf Scoter



Birdlife/Shutterstock; Anatoly Lukich/Shutterstock; Tim Zurovski/Shutterstock; Carl Olson/Shutterstock



Black-throated Gray Warbler





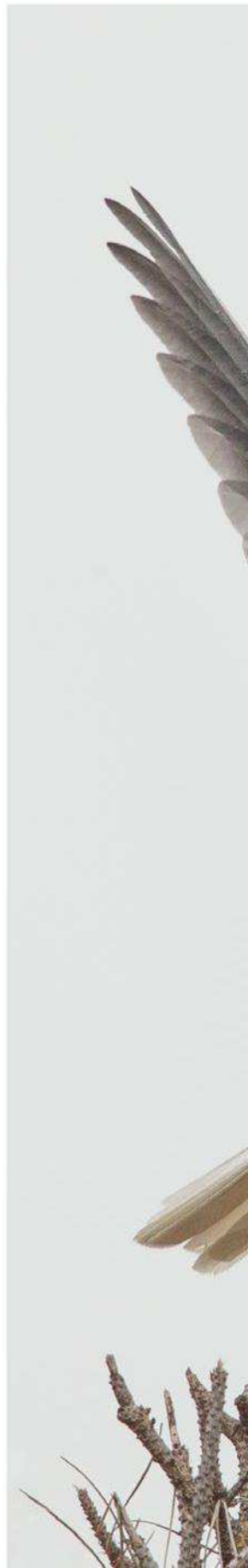
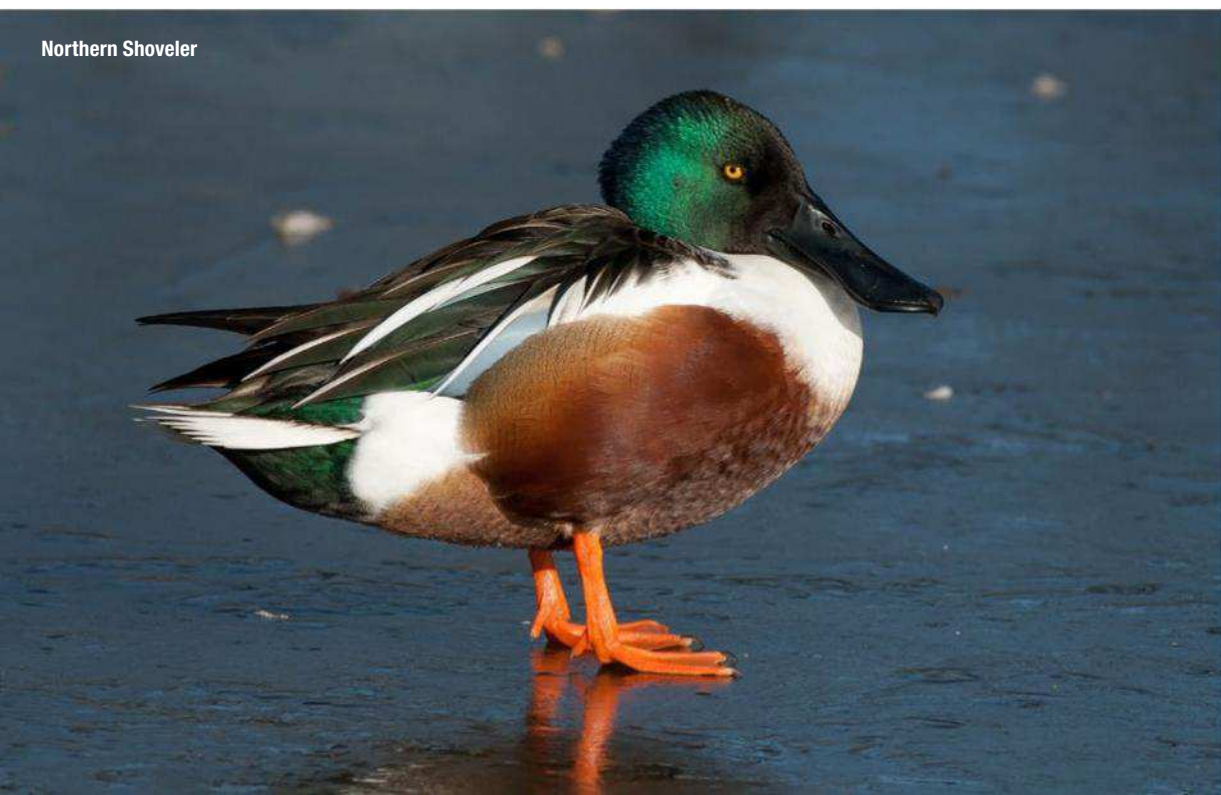
**kern national wildlife refuge**  
delano, california



Ferruginous Hawk



Northern Shoveler





**White-tailed Kite**

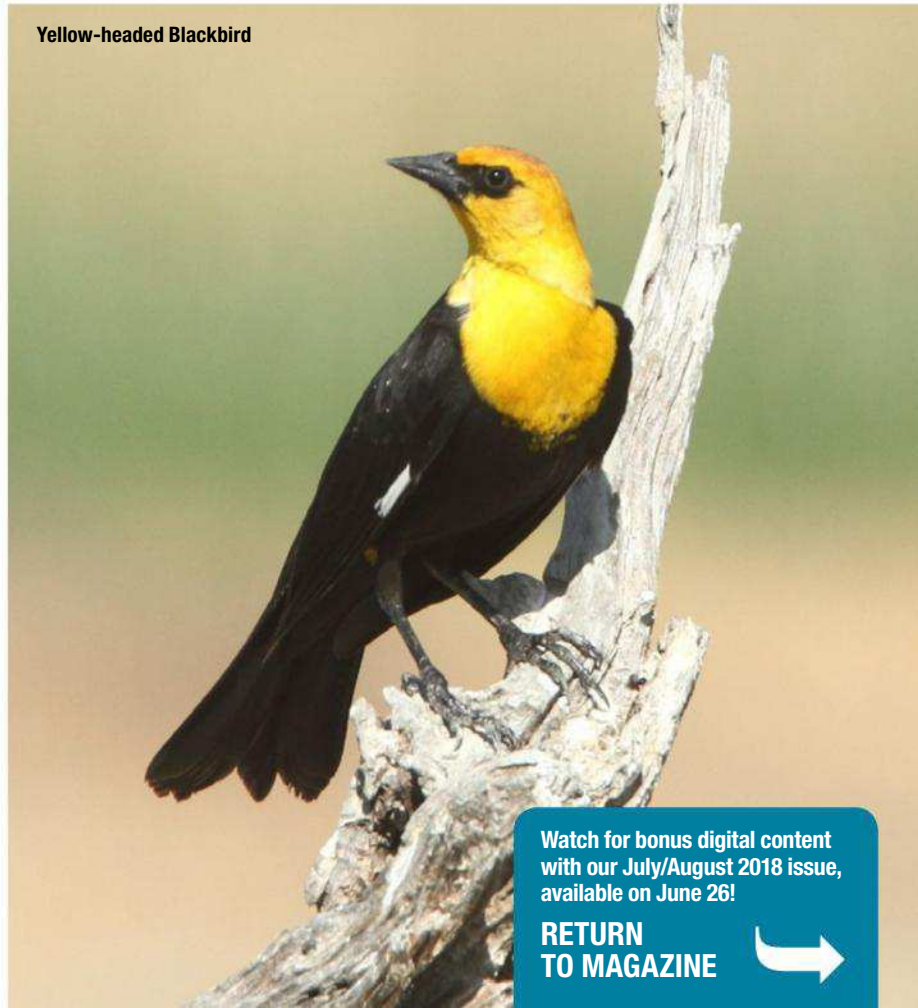


Thomas Barrat/Shutterstock; Roland Idema/Shutterstock; Phoo Chan/Shutterstock; Brian E Kuahner/Shutterstock; P. Lu/Shutterstock

**Blue Grosbeak**



**Yellow-headed Blackbird**



Watch for bonus digital content  
with our July/August 2018 issue,  
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